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EDITORIAL

The New President

On Thursday evening, October 18th, at 5.30 p.m., Dr. W. G. Clark will be installed as President of the Society for the session 1951-52, and will deliver his presidential address. His election was very welcome, apart from his eminence in the public health service, because he is also a Scottish President serving in Scotland (his last such predecessor was Sir Alexander Macgregor when M.O.H. of Glasgow), and because, strange as it may seem, he is the first Medical Officer of Health of the City and Royal Burgh of Edinburgh to attain this office in the history of the Society, now nearing its 100 years. Dr. Clark's annual report for 1950, just issued, contains an excellent history of public health during the past 50 years in that fair city, with portraits of the distinguished line of Medical Officers of Health and their colleagues.

Dr. Clark has been a keen member of the Society and served it well for many years as honorary secretary of the Scottish Branch and as a representative on the Council. We hope that many of our members from north of the Border will descend on the Sassenach capital for the installation, or later, on November 22nd, to turn the Society's annual dinner into a Scots night.

The State of the Public Health, 1949

Sir John Charles' first report* as Chief Medical Officer, by a return to the former practice, has been issued as a volume separate from the official report of the Ministry, which covers the financial year ended March 31st, 1950. This is the 26th in the series of annual reports by the Ministry's Chief Medical Officers and its contents are as interesting to us as ever. Perhaps more so, because, owing to the transfer of the sections on the national hospital and general medical services to Part I, the contents of Part II are mainly on the preventive side. We are not so happy that the sections on maternal and child care and on mental health have also been removed from Part II to Part I, but the reason is presumably that the emphasis under these heads has been laid on the hospital provision made for them.

The Public Health Service will be grateful to Sir John for the passage towards the end of his personal introduction which has been widely mentioned in the Press and which we quote here:—

* Report of the Ministry of Health for the year ended March 31st, 1950. Part II. On the State of the Public Health, being the Annual Report of the Chief Medical Officer for the year 1949. Cmd. 8343 (pp. 194. Price 6s. net). London: H.M. Stationery Office.

The nation, in its recent preoccupation with the curative and specialist services, seems rather to have lost sight of what it owes to the preventive health services, which, for many decades, have been responsible for the saving of an infinity of human life and suffering.

These preventive health services work unobtrusively and smoothly. Because their greatest victories are marked only by the absence of cases and deaths of disease, these victories have no news value of popular appeal, nor are their efforts noticed save when, on occasion, something goes wrong or, as in the case of poliomyelitis, lack of some essential knowledge prevents a reasoned prophylaxis. Thus, because their silent effectiveness is so unpublicised and because of the apparent neglect of these services, the more able of the younger practitioners tend to seek other branches of medicine, and recruits to the wide harvest field of public health are few.

Yet, if one of the criteria of civilisation in a community lies in its efforts to promote and preserve the health (and consequently the happiness) of its citizens, preventive medicine must be given its place in the front rank.

For much as preventive medicine has already given to the welfare of mankind, much more remains for it to do in those fresh fields of prevention which lie before it, still shrouded in the mists of imperfect aetiology. If many of Bunyan's "Captains of the men of death," like most of the infective fevers, now claim but a minute fraction of the number of victims, they slew a few decades ago, others—cancer, tuberculosis, heart disease, still slay their thousands each year. Prevention is better than cure, and nothing and no one but the best are good enough to ensure it. "If," wrote Sir John Simon,* "the institutions of the country are to be valued in proportion as they favour the greatest good of the greatest number, it may be assumed that those which represent the counsels of Preventive Medicine will never henceforth be held in low esteem."

Sir Wilson Jameson, in the last report, paid a graceful farewell tribute to Medical Officers of Health and the staffs of public health departments. This tribute I would re-echo and again emphasise how much my medical colleagues and myself owe to them.

The vital statistics of 1949 are already well known and need not be restated here. The Chief Medical Officer comments that the facts that the ages under 45 death-rates were in general slightly lower than 1948 and that the infant mortality rate, in particular, fell to yet another low record (for the fourth year in succession) suggest that the increases in the death-rate at all ages signify no more than the normal effects of climatic and epidemic variations on older people. The causes of death mainly responsible for the increase were heart and vascular diseases, influenza and respiratory diseases which, together with old age, accounted for 61.2% of all deaths in the year—nearly 4% more than in 1940. His summing up is that if influenza and poliomyelitis be excepted, 1949 was, as regards infectious disease, a good year even when compared with its record-breaking pre-

* English Sanitary Institutions (1890) p. 476.

decessor; 5,665 deaths were ascribed to influenza (3,855 occurring in the first quarter during the epidemic). Sir John points out that the difference between total deaths from all causes in 1949 (with a mild epidemic of virus influenza) and in 1948 was 41,000, 29,000 of this excess being in the first quarter. "Here is an obvious field," he writes, "for further investigation into the effect of virus influenza on those factors in total mortality which do not, at first sight, seem related to influenza." 1949 was notable for being the first year in which the deaths from diphtheria fell to below 100; they were actually 84, less than one-thirteenth of the average annual number in the five years preceding the national immunisation campaign.

The individual chapters of the report are again contributed by authors whom Sir John names: vital statistics by Dr. Percy Stooks; general epidemiology by Dr. W. H. Bradley and his colleagues, with Dr. W. C. Cockburn contributing the section on food poisoning, and Dr. A. H. Gale, a discussion of the association of inoculations with poliomyelitis; some notable outbreaks (the *Mooltan* smallpox, *Crowthorne* and typhoid) by Dr. Bradley; the Public Health Laboratory Service by Prof. G. S. Wilson; the Hospital Laboratory Service by Prof. S. P. Bedson; and the National Blood Transfusion Service by Dr. Maycock; tuberculosis by Dr. Norman Smith, who discusses the remarkable decline of 10% in the total deaths from the disease (to be followed by a further 20% decline in 1950); rheumatic diseases by Dr. E. T. Conybeare; nutrition by Dr. H. E. Magee; morbidity statistics by Drs. W. P. D. Logan and Mackay, of the General Register Office; the work of W.H.O. by Dr. Melville Mackenzie; and miscellaneous by authors unnamed, except for Col. P. G. Stock (now retired) and his colleagues. This last contains, under "Survey of Health Services," another passage which deserves quotation:—

Although some Medical Officers of Health were still inclined to feel despondent and frustrated, others showed unabated optimism and enthusiasm for their work. The former were those who deplored the loss of their hospitals and the personal services which they formerly administered. The latter were those who realised that the National Health Service Act left the bulk of the Public Health Act, 1936, unaltered, so that they were still responsible for administration under that Act. They also realised that epidemiology, in its widest sense, was still their most important duty, and that, moreover, the increasing age of the general population had magnified the extent of many difficult problems.

The appointment of district Medical Officers of Health to do part-time work for the County Council has much to recommend it. It enables them to keep touch with the population of their areas at all ages, and forms a valuable link with the county medical officer. Where such joint appointments are made, it should not be forgotten that the primary responsibility of the district Medical Officer of Health is to his local sanitary authority, because there is a statutory obligation on all those authorities to appoint Medical Officers of Health, whose duties to them are laid down by statute. Too much emphasis on county work might lead to delay and confusion in dealing with outbreaks of infectious disease.

Two appendices, on health control at airports, by Col. Stock, and on modern port health practice regarding ships infected with smallpox, by Dr. L. H. Murray, are of considerable interest.

Dr. J. Alison Glover has again been the editor of the whole volume, which is well up to the standard of its predecessors especially on the epidemiological side.

Immunisation and Poliomyelitis

Dr. Gaylord W. Anderson and Mrs. A. E. Skaar, of the School of Public Health, University of Minnesota, aided by a grant from the National Foundation for Infantile Paralysis, have made a statistical analysis* of the histories of cases of poliomyelitis reported in the 1946 Minnesota outbreak, in order to establish evidence to confirm or rebut the British or Australian reports of paralysis following immunisation. For this study 2,709 case histories were available, but the authors dealt in detail only with those under eight years of age, the group receiving most immunising injections, and concentrated on those in which there

was a definite history of polio occurring within one month of antigen injection, and on those others who had not received injections or whose injections preceded polio by more than one month. In 850 confirmed cases under eight, in which an antigen injection preceded the disease within six months, the onset was within one month in 33, from one to six months in 52. The inference drawn from the concentration of cases within one month after injection is that some causal relationship was operating. There was also a striking correlation in 19 of the 33 "first month" cases between the location of paralysis and site of injection. Arm involvement was particularly noticeable in the first month group compared with the others. Moreover, 58% of the first month group was under two years and arm paralysis occurred in 74% of these infants; and bulbar and spinal paralysis occurred in 80% of this group, both these percentages being substantially higher than for other groups. No specific correlation was established between paralytic incidence and particular types of antigen and the authors believe that the conditioning of the paralysis observed was a non-specific factor "probably related to the presence of some irritant acting as a foreign body."

The authors do not believe that the effect of antigen injection in determining development or localisation of paralysis lasts beyond the initial month. They reviewed the 2,709 cases of the Minnesota epidemic for type and degree of involvement with special reference to their histories of immunising injections and found no apparent connection with severity of polio involvement or susceptibility except in the first-month group.

The main conclusions drawn from this study are therefore to confirm the British findings of an apparent causal relationship between injection and localisation of paralysis within one month from the former, to suggest that the cases following immunisation are more severe and to show the desirability of temporarily postponing immunisation during epidemic periods of poliomyelitis.

The Prevention of Dental Disease

The subject of prevention of dental disease was well to the fore at the annual meeting of the British Dental Association, which was held in London in July of this year. Mr. E. B. Dowsett, D.S.O., T.D., F.D.S., M.R.C.S., L.R.C.P., this year's President of the Association, made it the theme of his inaugural address,* and there followed later in the week symposia on preventive dentistry and oral hygiene.

Mr. Dowsett, after calling attention to the ravages of dental disease in civilised countries, declared his belief that it was largely preventable. He reminded his listeners that during both world wars it had been noted that there had been a marked decrease in dental decay in all children of school age, not only in this country, but in many others, and that it had again increased when each war had ended. It might not here be out of place to recall to our readers that observations such as these on the teeth of school children in Shropshire had prompted the late Dr. James Wheatley, a Past-President of the Society, to declare shortly after the first world war "that we are in the fortunate position to-day of knowing how dental caries is caused and how it can be prevented." Following the second world war, more widespread investigations had been carried out and Mr. Dowsett drew attention to the fact that, whereas in Norway and Finland there had been a decrease in dental caries of from 50% to 75%, in Denmark and Sweden the reduction had been only 7% and 17% respectively, the point of interest being that in these last two countries, although the consumption of sugar had been reduced by a comparable amount, the bread had not changed at all, remaining white and of low extraction rate. In Norway and Finland, on the other hand, the composition of the bread had changed considerably, being of a much higher extraction rate and much coarser in texture, making it a fair assumption that roughage in the form of hard fibrous food was essential to the natural cleansing of the teeth and gums during the process of mastication. He was prompted

* *Pediatrics* (June, 1951).

* *British Dental Journal*, July 17th, 1951.

to pose the question: "Can the people's diet be controlled?" In his view, sweet eating by children could and should be controlled, and he went so far as to say "that if all sweet shops were prohibited by law—no doubt an impossible Utopia—then the dental surgeon's work with children would largely disappear." He went on to make a plea for the greater consumption of wholemeal bread, which was "not only detergent to the teeth but contains the natural vitamins necessary to our health and general well-being," and urged that a committee of dental research workers should be set up "with the simple remit of formulating the *known* causes of dental disease and the methods to be adopted to prevent its incidence." When agreement had been reached by such a body he wanted very strong propaganda to be put out, "not haphazard, as in the past, but in a much more forceful manner and kept up, week in and week out, to the schools, in the Press, by the B.B.C., and by the profession for passing on forcibly at all times.

During the course of the address mention was made of the work and teaching of the late Dr. J. Sim Wallace, who was twice President of the Dental Officers Group of the Society, and whose Presidential Address to that Group in 1928 gained for him the Society's Neech Prize. How it must have delighted the heart of that grand old warrior, whose death was to occur ten days later, to know that his views regarding the harmful nature of refined carbohydrates and sugars and the need for the fibrous element in food to be retained, which he had elucidated and begun to propound 50 years ago, were being again so forcefully urged.

The main details of Sim Wallace's career have appeared in our previous issue. Briefly, his plea was for a better understanding of the physiology of mastication. Carbohydrates, especially the refined ones, were the demons of decay, but one of their number, inert cellulose, which formed the skeletal matrix of plants, provided the antidote. During mastication the coarse fibres, if present, were returned again and again to the grinding surfaces of the teeth until all the nutriment had been torn and crushed out of them, leaving only a fibrous mop which, by its scouring action, cleansed the teeth and applied healthful friction to the gums. To this he coupled the flushing and lubricating action of the saliva and his "accessory food factors" were not vitamins but the physical nature of the food, acids and stimulating principles. His prize-winning address was entitled "The Prevention of Dental Caries—Obstacles in the Path of Progress," and amongst these he listed the activities of the "don't know" school, who are still very much with us, and the vested interests of "tuck shops, confectioners, chocolate manufacturers, etc." He, too, urged the need for research but thought that there was no need for it to be centrally encouraged. In his view, it could be safely left to the individual, "for in human nature we find the desire to know a dominating impulse." Such people "revel in the search for truth and a monetary return is of little consequence." How very true of him.

It is perhaps not out of place to ask what progress has been made in the science of preventive dentistry since Sim Wallace wrote his prize-winning address some 23 years ago. The answer from the standpoint of public health and propaganda must be very little, apart from the knowledge that has been gained regarding the value of fluorine naturally present and artificially introduced in communal water supplies, which is at present under review by the Medical Research Council and to which reference has been made in earlier issues of this journal. There is also the possible value of incorporating in dentifrices such enzyme inhibitors as urea and di-basic ammonium phosphate with the object of arresting harmful fermentation on and around the teeth. The value of topical application of sodium fluoride to the surfaces of the teeth, so strongly urged in the United States of America, and for which a 40% decrease in the incidence of fresh cavities has been claimed, has so far met with little official confirmation in this country. In any case, no delaying action is claimed in respect of already active decay and so it is only applicable in the case of teeth already sound or artificially rendered so.

DIPHTHERIA IN GATESHEAD, 1936-46*

By JAMES GRANT, M.D., D.P.H.,

Medical Officer of Health, Gateshead

Diphtheria was very prevalent in the North of England between the years 1930 and 1946. Gateshead was one of the county boroughs involved, for there was a prolonged epidemic in 1936-1946. The outbreak had been fully studied with the aid of a Leverhulme Research grant. Some of the findings have been briefly summarised.

Epidemiological Features

There were 3,392 notified cases, and almost all were admitted to hospital, where the number was corrected by the exclusion of 406 revised diagnoses, these including a number of apparent carriers. Among 2,986 true cases of diphtheria there were 149 deaths, including five sudden deaths at home, giving a case mortality of 5%. The annual case rates over the eleven years averaged 2.45 per thousand of population, and there were two waves, maximal in 1937 and 1944, and separated by the school closure and evacuation of 1939 and 1940.

The first wave was associated equally with *mitis* and *gravis* organisms, but in the second wave *gravis* infections exceeded 80%. In spite of immunisation begun in 1941 and covering 50% of the population by 1943, the epidemic did not begin to decline until 1945. The graph of the age distribution of diphtheria showed a progressive steep increase from birth to the fifth and sixth years of life, and thereafter almost as rapid a decline to the end of school life, followed by a gradual waning to adult life. The youngest patient was an infant of four weeks with pharyngeal diphtheria, and the oldest, two women in the 61st year of life. Sex incidence was equal up to five years but over this age females gradually came to predominate, so that after 25 years of age they outnumbered males by four to one. This apparent susceptibility was related to the differing habits of the sexes, for case mortality at comparable ages was the same.

By means of spot maps, pinpointing each case of diphtheria and indicating each group of 50 persons as enumerated in housing and billeting surveys, it was possible to compare the location of diphtheria with the distribution of the population. The incidence of diphtheria over the whole eleven years was practically identical with the distribution of the population, but from one year to the next an irregular movement of the epidemic could be demonstrated.

Of the 2,986 cases 536 were from households in which there was multiple infection as follows: one household with six patients, two with five, eleven with four, 40 with three, and 178 with two. As judged by the intervals between these cases, the incubation period appeared to be four days with extremes of two to seven.

There were 5,744 contacts examined by swabbing and 16 were found to be presenting diphtheritic membrane; 489 yielded positive swabs, and of these 84 were found on re-examination to be suffering from diphtheria; 72 contacts suffered non-diphtheritic illnesses and of these 44 suffered from acute non-diphtheritic tonsillitis and three from otitis media.

Clinical Features

For purposes of comparison, the 2,971 hospital patients were classified clinically according to the anatomical location of false membrane when the patient first came under hospital treatment. They were also further subdivided according to the extent of membrane into mild, moderate and severe categories. Although a spread of the membrane after the administration of antitoxin was observed in 200 of the patients up to the third day of treatment, it was only necessary to alter the initial classification in 31 patients.

Table I gives a summarised analysis of the patients and a note of the deaths and incidence of the essential complications:

* Paper read to the County Borough Medical Officers of Health Group, Society of M.O.H., Bournemouth, June, 1951.

TABLE I
CLASSIFICATION—ACCORDING TO MEMBRANE LOCATION (DEATHS IN PARENTHESES)

		A	B	M	P	H	
Anterior nasal	38 (—)	1	—	1	—	—	
Tonsillar	2,114 (9)	303 (5)	50 (3)	101 (8)	53 (2)	—	
Pharyngeal	346 (8)	118 (2)	70 (4)	40 (7)	56 (1)	3 (2)	
Nasopharyngeal	333 (106)	177 (66)	181 (89)	167 (106)	108 (32)	34 (33)	
Laryngeal	36 (4)	4	—	2 (2)	—	—	
Mixed laryngeal forms ...	69 (15)	16	3 (3)	11 (9)	1	—	} Tracheotomy 23 (12)
Other mixed forms	29 (2)	9 (2)	1 (1)	3 (2)	3 (1)	1 (1)	
Other sites	3	—	—	—	—	—	
Paralysis	3	—	—	—	3	—	
Totals	2,971 (144)	628 (75)	305 (100)	325 (134)	224 (36)	38 (36)	

Note.—A = Albuminuria. B = Bullneck. M = Myocarditis. P = Paralysis. H = Haemorrhages.

From this the overwhelming mortality and toxicity of nasopharyngeal diphtheria is amply demonstrated. Actually, severe nasopharyngeal diphtheria was 3.9 times more toxic than the average case and 8.5 times more fatal. All the patients with severe nasopharyngeal diphtheria, combined with laryngeal or with vulvo-vaginal diphtheria, died.

Apart from the common toxic complications of diphtheria, the following rarer conditions were seen: extensive oedema of the face and neck (eight), delirium (four), coma (five), convulsions (six) and hemiplegia (one).

Secondary infections unrelated to clinical severity were fairly frequent and took the form of tonsillitis (3%), secondary cervical adenitis (1%), otitis media (1.2%), and indeterminate pyrexia (1.9%); most of these were of streptococcal origin.

Serum rashes were seen in only 4% of the cases, usually about the seventh to ninth day after administration. No case of anaphylactic shock was seen, but in four patients there was a reaction to the intravenous administration of antitoxin.

Coincident illnesses were related to the current epidemiology, the most frequent being 20 patients with simultaneous scarlet fever and diphtheria.

It appeared that in only two patients had a previous tonsillectomy been performed, when at least 5% would have been the expected proportion. Tonsillectomy is undoubtedly protective, but while enlarged tonsils may offer a suitable field for invasion, the severity of the illness was not directly related to the size of the tonsils.

Although there were four asthmatics, eight epileptics and seven subjects of hay fever, the only upward incident concerned the death of an epileptic in status epilepticus in late post-diphtheritic paralysis.

Diphtheria Paralysis

Using line diagrams to study the onset and termination of paralysis, it became clear that paralysis in diphtheria took two forms, an early and a late, which might both occur in the same case. There was an early local paralysis of the palate or pharynx which began in the first 24 days, usually

between the tenth and 20th day and was often accompanied by fatal toxæmia, while there might be recovery by the 40th day or replacement by the late form of paralysis. This started after the 25th day and was apparently of central origin. The palatal involvement was usual, but ocular, pharyngeal, laryngeal and more widespread paralysis was also observed. Peripheral neuritis of the legs could sometimes be observed as the only sign of late paralysis, but this was commonly present with other forms of late paralysis. Late paralysis tended to reach its maximum in the sixth and seventh weeks of the disease. Combined early and late paralysis usually appeared to be a continuous process, but in a few cases there was observed a well-marked interval during which the patient might even be allowed up.

In Gateshead there were 55 cases of early paralysis only with 23 deaths, 101 cases of late paralysis with eight deaths and 58 cases of combined early and late paralysis with five deaths. Lastly, there were ten cases of peripheral neuritis of the legs only. It appeared that in diphtheria there were periods of crisis, in the second week of the disease, often with the onset of paralysis, and at the end of the sixth week with the onset of ocular or pharyngeal paralysis.

The longest duration of paralysis was from the ninth to the 82nd day of the disease. A feature of late paralysis was the frequent recurrence of the original toxæmia, as shown by toxic vomiting, myocardial disorder and albuminuria.

Death in Diphtheria

Early fatality in faucial diphtheria took the form of the more acute peripheral circulatory failure or the more drawn-out cardiac sickness syndrome. The distinction between these two forms of early death was far from clear-cut. Death in late paralysis might occur either from the cardiac disorder or directly from the neuro-toxæmia or finally from an associated broncho-pneumonia. In laryngeal diphtheria death from asphyxia was an additional possibility, but in a number of patients death appeared to be a combination of cardiac failure and asphyxia.

TABLE II
MORTALITY AND COMPLICATIONS OF DIPHTHERIA ACCORDING TO DAY OF TREATMENT

Day of disease first given antitoxin	Gateshead cases					Ker (1920)		Rolleston (1940)		Faber (1904)
	Cases	Case mortality %	Albuminuria %	Paralysis %	Haemorrhages %	Case mortality %	Paralysis %	Case mortality %	Paralysis %	Case mortality %
1st day ...	227	4.4	18.0	4.0	0.4	1.5	2.1	0	3.6	7.1
2nd " ...	823	3.4	21.8	7.6	1.1	3.4	5.1	3.1	14.1	7.5
3rd " ...	845	5.1	22.0	7.9	1.6	6.8	9.6	6.1	21.4	9.0
4th " ...	543	5.0	20.6	7.4	1.5	10.9	14.2	10.6	26.9	11.4
5th " ...	233	6.9	22.7	9.4	0.9	14.9	10.1	—	26.3	15.6
6th " ...	112	6.2	24.1	4.5	1.8	12.9	14.1	11.5	27.1	17.0
7th " ...	59	6.8	18.6	13.5	1.7	16.5	10.9	—	18.6	21.3
Later ...	85	2.4	21.2	9.4	1.2	15.3	4.3	—	—	19.9
Uncertain	13	7.7	—	15.3	—	—	—	—	—	—
Totals	2,940	4.7	21.4	7.6	1.3					

Results of Antitoxin Treatment

Altogether 2,940 Gateshead cases were given antitoxin and these were analysed in a similar fashion to many earlier series of cases, which showed a progressive worsening of prognosis with every day of delay in the administration of antitoxin. The comparison is given in Table II.

It will be seen that in Gateshead the figures were not convincing at all as evidence of the efficacy of modern antitoxin, which was used in concentrated and refined form in doses ranging from 20,000 to 26,000 units.

Such tables can be fallacious, but if the comparison is restricted to the severe nasopharyngeal cases only, the case mortality with treatment on the first day of 31% increased to 35% on the second day, 40% on the third, 43% on the fourth, and 47% on the fifth day.

There is no doubt that in these cases of diphtheria, modern antitoxin therapy was disappointing. Whether this was due to over-refinement of the antitoxin serum, as suggested by Hartley (1950), or a lack of some constituent as suggested by O'Meara (1940), or whether it was due to the ultra-virulence of the gravis strains of diphtheria organisms, is a matter for investigation.

Bacteriological Findings

In 317 patients who had been typed serially, there were 216 gravis infections with ten deaths, 20 intermedius with one death, 70 mitis with one death, and eleven atypical infections without mortality.

In connection with Hartley's Tyneside Research (1950), 145 Gateshead patients had a full examination of the throat bacteriology and in 37, other organisms, principally haemolytic streptococci, accompanied the diphtheria bacilli. The proportion was similar in the mild, moderate and severe cases of the disease. It is felt that the rôle of these other organisms is to open up the path of invasion for the diphtheria bacilli. Their presence explains the observed frequency of streptococcal illness in convalescent diphtheria patients and in contacts of diphtheria patients.

Immunological Aspects

Thirty-nine second attacks were encountered (1.3%) and 17 probable second attacks, with one death. There were two possible third attacks of diphtheria.

The comparative incidence of diphtheria in inoculated patients, as compared with unimmunised patients, was not nearly so favourable as the national experience, but there was no doubt as to the modification of the clinical severity in the inoculated; 27 Schick negative patients, nearly all nurses, were the least severely affected of the patients; 380 fully inoculated patients yielded one death, 122 partly inoculated yielded three deaths, 56 probable second attacks gave one death, and 2,405 non-inoculated patients produced 139 deaths.

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THE ANNUAL DINNER

As previously announced, the Annual Dinner of the Society will be held at the Piccadilly Hotel, London, W.1, on Thursday, November 22nd next, at 7 for 7.30 p.m. The President for session 1951-52, Dr. W. G. Clark, will be in the chair, and it is hoped that both the Minister of Health and the Secretary of State for Scotland who are in office after the forthcoming General Election will be principal guests. The charge for tickets will be 25s. each (inclusive of coffee and gratuities, but not of wines, spirits and cigars). Members are asked to apply for tickets for themselves and their guests as early as possible to the Executive Secretary, Society of M.O.H., Tavistock House, Tavistock Square, London, W.1. Remittances should be forwarded with applications.

THE TUBERCULOSIS SERVICE—"BRIDGING THE GAP"

By J. E. GEDDES, M.D.,

Chief Clinical Tuberculosis Officer, Birmingham

Tuberculosis and the tuberculosis service have been the subject of considerable comment, and the recently issued report of the Tuberculosis and Chest Committee of the British Medical Association has defined the several objectives. It is unnecessary to stress again the significance of tuberculosis; that has been vigorously upheld by many authorities in recent months. There is rightly a call for urgent action and in a leading article in the *British Medical Journal* (December 16th, 1950) the comment is made: "It is nearly six months since we wrote 'What is needed now, desperately needed, is not reports, but action.'"

The need is obvious and opportunities in prevention—in the medical and surgical treatment of pulmonary tuberculosis—are greater and more likely to be effective than at any time in the long history of tuberculosis. The moment demands action and determination of practice should be readily attained where the communal significance of the problem is so grave and so generally accepted.

The Tuberculosis Service of the City of Birmingham was not so seriously disrupted by the Act as was the case in so many other areas, and the work undertaken to rectify the disunity may, at the present critical stage, have a certain value.

The Birmingham sanatoria, four in number with 850 beds, were, with the exception of one sanatorium, grouped, and became the responsibility of a Management Committee—the Birmingham (Sanatoria) Group Hospital Management Committee. The deprived sanatorium became the responsibility of another and a general management committee, but is still available for the treatment of patients from Birmingham. Its use within a co-ordinated Birmingham plan clearly depends on the suzerainty of the Committee concerned and may very well be at risk. It reflects in miniature the disruption which has been so common an experience in many other areas where a sanatorium or a clinic has been vicariously allocated to a management committee which has not been given the tools to create an effective tuberculosis service, and is therefore largely disinterested in, and indeed without knowledge of, the important part played, or which might be played, by the unit entrusted to its jurisdiction.

The Birmingham sanatoria, with the central chest clinic, are under the direction of one hospital management committee, whose sole responsibility is in the control of these hospitals. The Chairman of the management committee is also the Chairman of the Tuberculosis (Domiciliary and After-Care) Sub-Committee of the Health Committee of the City of Birmingham. The Medical Officer of Health (Dr. Matthew Burn) is a member of the Hospital Management Committee, and in ultimate control of the preventive service in tuberculosis for the area. The Chief Clinical Tuberculosis Officer is responsible for the co-ordination of clinical practice throughout the sanatoria and clinics, and is the Senior Tuberculosis Officer of the Health Authority and the Adviser of the Medical Officer of Health and the Authority in problems of tuberculosis prevention. There is here more than the semblance of unity, and the progress attained may, in general, measure the effectiveness of the liaison.

The administrative problems of a sanatorium are, in many material respects, distinct from those of a general hospital, and these needs have been the responsibility of a lay staff whose knowledge of sanatorium administration is under constant test, correction and development. Nothing but good has come from that administrative arrangement, and despite the present financial stringency good material progress has been attained, and in these days of general frustration there is satisfaction in any partial attainment.

The essential medical practice applied has been in the establishment of one surgical and six medical teams, each

with sanatorium beds, and all made, or to be made, the responsibility of a consultant in chest medicine or thoracic surgery. The work of the physicians will not be stultified by limitation to the diagnosis of pulmonary tuberculosis. The service, as is the practice in most specialties, will be enlivened and stimulated by physicians whose responsibilities will include active prevention, active diagnosis, active treatment, and active rehabilitation.

This division of clinical responsibilities is being actively developed and appropriate appointments are now being made. The necessary approval of the principle, with its practical implications, was readily agreed by the Medical Officer of Health in so far as the preventive and after-care aspects of the work were concerned.

The practice of sanatorium treatment within the Birmingham group of sanatoria will be preserved by agreement on certain general principles within which there will be complete clinical freedom, restricted only by an obligation not to violate those general principles commonly agreed by the Medical Advisory Committee of the Group.

The domiciliary treatment of pulmonary tuberculosis, particularly with streptomycin/P.A.S., and by collapse therapy, was readily established under this co-ordinated control. The district nurses were mobilised with the immediate assistance of the Medical Officer of Health, and the collaboration of the medical practitioners. The admission of the patient to a sanatorium for collapse therapy, artificial pneumothorax, phrenic crush, etc., is arranged without restriction in the admission of, or neglect of, other patients whose need for sanatorium treatment is determined by unsatisfactory social circumstances. The overall knowledge makes selection easy and probably more purposeful and more logical to the main issue than must necessarily apply where a physician works his unit, whether it be clinic or sanatorium, in restricted isolation. By November, 1950, 106 patients have been treated with the following general results:

TABLE I
DOMICILIARY TREATMENT OF PULMONARY TUBERCULOSIS
Treatment: Streptomycin, 1 gm. daily
P.A.S., 20 gms. daily (Ross*)

Type of disease	Number	S./P.A.S. adequate	Collapse therapy necessary	Good but inadequate	No change
Minimal ...	4	3	1	0	0
Exudative ...	20	10	10	0	0
Exudative with cavitation ...	45	2	32	10	1
Exudative with chronic cavitation ...	20	0	7	4	9
Tension cavitation ...	17	1	14	2	0
Total ...	106	16	64	16	10

S./P.A.S. adequate = Resolution of disease satisfactory with S./P.A.S. alone.

Collapse therapy necessary = Resolution of disease good but collapse therapy necessary to complete resolution.

Good but inadequate = Resolution of disease incomplete and not capable of correction by collapse therapy.

The adoption of domiciliary treatment requires an effective ambulance service for refills which in this scheme are undertaken at the clinic, and for routine monthly radiological examinations, a need which has been met by the allocation of an ambulance for that particular purpose.

The problem of rehabilitation and re-employment remains one of the fundamental factors in the control of tuberculosis—a Medical Interviewing Committee with representatives from the Ministry of Labour, the Health

Authority, Industrial Medicine, and the Chest Physicians, has been established and meets at the central chest clinic, to which the Senior Physicians refer those of their patients whose rehabilitation in industry presents any particular problem. So far the committee, which was established in January, 1950, has interviewed 214 patients with the following results:

TABLE II
MEDICAL INTERVIEWING COMMITTEE

Number of patients interviewed, 1.1.50 to 31.12.50 214

Decisions:

Sheltered employment:—

Re-employ—Now employed ...	46
Awaiting admission ...	21
Industrial Rehabilitation Unit ...	3
Ministry of Labour Training Course:—	
Now in training ...	17
Awaiting admission ...	5
Open industry following Training Course ...	2
Open industry ...	59
Sanatorium employment ...	7
Failures ...	12
Unplaced ...	7
Others ...	35

214 214

The practice of rehabilitation has been greatly fortified by the erection of a Remploy factory with accommodation for 300 patient employees, which was opened during June, 1950, and in which 60 patients are now employed. The medical supervision of these patients is the responsibility of one of the senior physicians and the domestic welfare the particular duty of health visitors specifically allocated to this unit by agreement with a senior partner of the team—the Medical Officer of Health.

The diversional therapy needs of those patients undergoing domiciliary treatment has also been met by the Health Authority section of the partnership, and an occupational therapist is now actively at work in the homes of these patients, and it is hoped this service may presently be linked to a service for "home bound" patients in conjunction with the factory service.

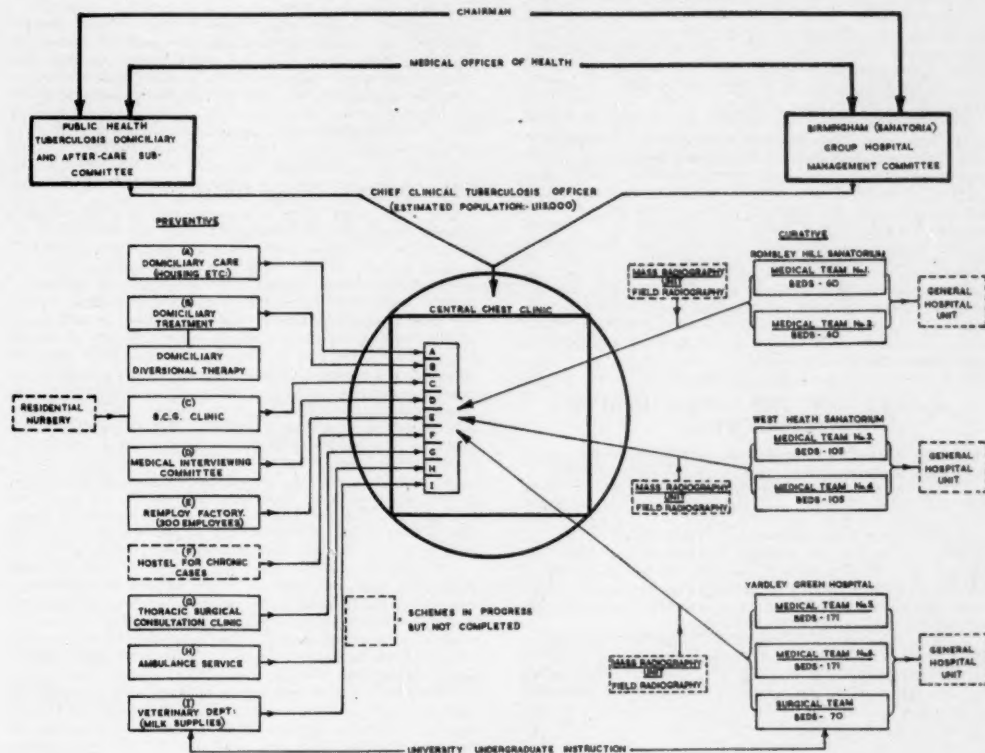
The introduction of B.C.G. created complex problems, but these became the concern of the two authorities concerned, administratively and executive integrated, and a special B.C.G. clinic, with complete x-ray facilities and separate from the main chest clinic, was quickly established. Nurses were recruited by the Health Authority and such clinical work as was necessary became the responsibility of the Hospital Management Committee. Some 800 contacts have already passed through this clinic and 224 have been vaccinated. The provision of a residential nursery for those contacts whose home conditions are bad is well advanced, and the administrative and executive arrangements for this were easily applied by the common interest of the "two" authorities concerned.

This has been the experience of a unit under the Health Service specifically concerned with tuberculosis. The whole complex problem is largely the concern of a "divided" but intact authority, and is seen in all of its multiple facets. Immediate and co-ordinated action is possible. Under the vigorous development of the domiciliary service the waiting list, in so far as that is determined by those patients awaiting admission for active medical or surgical treatment, and by those whose domestic circumstances are unsatisfactory, had attained the following relatively satisfactory position:

1948 (June)			
Men	Women	Children	Total
216	64	16	296
1950 (December)			
Men	Women	Children	Total
63	91	21	175

* (Ross, H.) Extracted from lecture given to Midland Tuberculosis Society, January 6th, 1951.

FIG. 1.—THE ANTI-TUBERCULOSIS SCHEME IN BIRMINGHAM REGION



The relation of these figures to domiciliary treatment, and their consequent significance, will of course be recognised.

There are, of course, many major problems unresolved, but they are known, commonly recognised, and a common mechanism for their solution is being forged.

The provision of hostels for those chronic cases whose home conditions are poor is under active consideration, plans have been drawn, and the need to await certain central (Regional) decisions only delays implementation.

This brief description of the functional activities of a unit of the Health Service may have some interest at a time when the multiplicity of reports may suggest a refuge on words rather than the very necessary resort to action.

Are there any disadvantages in the establishment of such a unit to deal exclusively with tuberculosis? Isolation in medical practice must be unsatisfactory, and must be prevented. Clinical isolation has rightly been a subject of criticism of the tuberculosis service in the past. Its perpetuation would be retrograde and must be avoided. The chest physician must deal with all the aspects of his speciality. It is equally unsatisfactory that a general chest physician should know little or nothing of tuberculosis, as that a "tuberculosis" chest physician should have a grossly restricted knowledge of general chest diseases. This question has been given general consideration both by the Tuberculosis Services Committee of the Regional Hospital Board and the Hospital Management Committee. There is an intention to link the present teams where

practicable, and as soon as circumstances are propitious, with the medical work of a chest unit in a general hospital.

There has been much discussion about the place of mass radiography in the chest service. It is clearly a problem of great complexity and interest. Apparatus for miniature radiography, whether it be 35 mm. or 5-in. by 4-in. films, will ultimately be required in all of the major diagnostic chest clinics, and with its provision the work of these clinics will be greatly facilitated. The development of mass radiography (field radiography), as distinct from the use of miniature radiography in the chest clinic, is another and big problem. The most complete integration of the chest services is desirable, and the link with mass radiography should be a particularly close one. If it were possible to so organise the mass radiography service that a "field" radiography unit was part of the normal equipment of each chest team (or teams), and a chest team whose deployment was the concern of an integrated "preventive-curative" authority, much good would result. The problem of staff for these units is a difficult one, but it should be possible to preserve the principle of general practice in chest medicine to arrange for a senior member of the chest team to be delegated for appropriate periods, or indeed as part of his ordinary duties, to the immediate control of the team's field radiography unit. There would appear much attraction in that project both for the workers in the mass radiography service and for the optimum use and development of this extremely valuable weapon for the detection of the unknown and symptomless clinical case of pulmonary tuberculosis.

It would appear inevitable that the tuberculosis service is bound to falter if its components are, as is largely now the case, dispersed most vicariously among a multiplicity of management committees. It is in such circumstances, surely ingenuous to imagine, that a co-ordinated plan is possible at present or, if drafted now, capable of implementation.

The development of two or three units within a Region of the kind now in operation in the immediate Birmingham area, although difficult—and this largely because of Health Authority boundaries and responsibilities—would give purpose to the work of a central committee such as that so rightly proposed by Prof. F. G. R. Heaf, and it would re-establish the clinic in the hierarchy of the chest service.

The general arrangements for the unit now briefly described are illustrated in the diagram (Fig. 1).

The opinions expressed in this statement are not, of course, necessarily those of the Regional Hospital Board, but the keen interest of Dr. Scurlock, the Senior Administrative Medical Officer, in the tuberculosis problem, is very warmly acknowledged.

CANCER AND THE PUBLIC HEALTH AUTHORITIES*

By MALCOLM DONALDSON, F.R.C.S., F.R.C.O.G.,
Lately Director of the Cancer Unit, St. Bartholomew's Hospital.

INTRODUCTION

In 1949 there were registered in England and Wales over 80,000 deaths due to cancer, but it may be asked, why should this be the concern of the Medical Officers of Health who have nothing to do with the diagnosis or treatment of the disease? Moreover, it is neither infectious nor contagious, and is not even notifiable.

All this is undoubtedly true, but at least one-third of this mortality is due to fear and ignorance on the part of the public, which prevents patients from seeking advice while the disease is often still curable; much of this mortality is therefore preventable by educating the public. The onus for educating the public in medical matters rests with the Local Authorities, as laid down by the Public Health and National Health Service Acts.

In this lecture I shall endeavour to prove (1) that the greatest factor contributing to the cure of a patient suffering from cancer is early diagnosis; (2) that the present delay in diagnosis is due in nearly every case to the delay in the patient seeking advice from her doctor. This will be followed by suggestions for a scheme to carry out the education of the public in cancer.

Benefit of Early Diagnosis

It is not difficult to prove that the possibility of curing a patient suffering from cancer depends more on the stage to which the disease has advanced at the time of treatment than any other factor. As examples may be quoted, cancer of the cervix and cancer of the breasts.

Cancer of the Cervix Uteri. In a recent international report (1948) on 30,299 cases of cancer in this site treated during or before 1941 (in 24 different institutions in eight different countries), 3,856 (= 12.7%) were in Stage I, that is to say, the disease was confined to the cervix. Of these 3,856 patients, 2,299 have survived five years or more and may be spoken of as "cured." This equals 59.6%. In many of the institutions the figures were even more favourable, in one case amounting to 77.1%.

In Stage II there were 10,033 (= 33.1%), and of these 4,129 (= 41.2%) patients have survived more than five years.

In Stage III, 11,542 patients were treated, of whom 2,644 (= 22.9%) have survived more than five years.

In Stage IV, 4,864 patients were treated and only 303 (= 6.2%) have survived five years or more.

* An address to the Midland Branch, Society of Medical Officers of Health.

If Stages I and II are added, the five years' survival rate is 45.8%.

Calculated on these figures, 7,546 more women would probably have been saved if all the patients had been treated in Stages I and II, and the five-year survival rate for all cases would have been 46.1% instead of 30.9%.

Cancer of the Breasts. The figures for breast cancer tell the same story.

Stage I five-year survival rate =	56.5%
Stage III " " " =	19.0%

"First Symptom to Doctor Interval"

The next point to be discussed is: Why do patients present themselves for treatment when the growth is so far advanced? Some consultants blame the general practitioners for this delay. This is perhaps because they remember one or two blatant cases of neglect or ignorance. In my opinion, such an idea is quite unjustifiable, and if the same consultant would take the trouble to ask every patient when she first noticed the symptoms and when she first went to the doctor, they might alter their opinion. This "First Symptom to Doctor interval" has been recorded in several institutions in this country, and the results in the individual institutions are very similar. The average "First Symptom to Doctor interval" for carcinoma of the cervix is 5.1 months and for cancer of the breast six months.

Why, then, do patients delay? I know of no survey to prove that it is due to fear or ignorance, but every consultant who has given thought to the matter will agree on this point. The number of times in the course of years that I have heard the remarks "It did not give me any pain and so I thought that it could not be serious"; or "I thought it was only the change"; or "I didn't come before because I thought it might be cancer" has convinced me that fear and ignorance are the two things that must be fought and overcome.

Alas, as no real attempt has been carried out in this country, it is necessary to turn to America, which I visited lately, for figures.

The public health authorities in Boston have published figures which prove that the "First Symptom to Doctor interval" in Massachusetts has fallen from 6.2 months to 3.9 months between 1935 and 1948, due to cancer education.

The mortality has also fallen, but many other factors besides education may enter into that question, such as better treatment.

American Methods

Cancer education in U.S.A. is carried out by the American Cancer Society, in close co-operation with the public health authorities and the hospitals.

The Society has its headquarters in New York and collects over £4,000,000 a year, which is spent mostly on education of the public and fellowships to doctors, but also in supporting cancer clinics, etc.

Each State has its own branch, and each branch organises a committee in every large town. These committees organise lectures with films, discussion groups, and distribute literature. Articles are written in magazines and the daily Press, and the "wireless" makes frequent references to cancer. It is not just one effort, it is continuous all the year round.

I do not approve of all their literature or films, but they have succeeded in getting rid of all "taboos" on the subject.

Can This be Done in England? Undoubtedly, and here is an outline of a scheme.

Most counties, I understand, have a Health Education Medical Officer, but it would seem to me necessary that he should set up a voluntary Cancer Education Committee.

His first step should be to approach the mayor of the town in order to call a meeting which should include representatives of Townswomen's Guilds, Women's Institutes, the Red Cross, W.V.S., Inner Wheel, the Churches, etc. The duties of the local committee would be: (1) to organise public lectures; (2) to distribute literature.

Various Methods of Instruction

Pamphlets. Although it is probable that a lecture, with questions and a leaflet to take home, is the best method of instruction, only a very few people can be dealt with by this method, and therefore the written word must be relied upon to reach the mass of the people. There is no difficulty in writing such pamphlets and the number is only limited by the cost. These pamphlets can, of course, be sent by post, but it is suggested that a more efficient and cheaper way is to have them distributed by volunteers who would say, "Do read this; it is really important from the point of view of your health," or some such words. This will be discussed later under Voluntary Help.

The Americans have done a survey which shows that pamphlets and magazine articles are the main source of the public's knowledge concerning cancer.

Leaflets. Leaflets given out at the time of a lecture are of great value, but there is a risk in distributing them alone, because it is difficult to write facts about cancer in a few words which cannot be misunderstood and create apprehension.

Lectures. The difficulty is that there are not nearly enough medical lecturers, and there is at present a very strong prejudice against lay lecturers. This is, of course, quite illogical, since the Red Cross train lay people to diagnose injuries and to treat the patient, which is far more dangerous than to teach a lay person, who never comes in contact with a patient, merely to repeat a lecture.

The only way to get these lectures given is to ask general practitioners to give them (after having been briefed) and to receive a nominal fee for doing it. This is also one of the best ways of making the G.P. "cancer conscious."

Recorded Lectures. Lectures can now be recorded on gramophone records, one side of a disc lasting 25 minutes. These can be used with film strips. A sound film is a more efficient method and could be sent round in a van. This would, in my opinion, be of the very greatest value, but the initial cost would be high. I suggest this should be a cartoon with a slight tinge of humour. We must get rid of the idea that it is necessary to put on black crepe when speaking of cancer.

Discussion Groups. These might be organised by the midwives, health visitors, Red Cross, W.V.S., Inner Wheel, women's institutes. (See Voluntary Help later.)

Exhibition. The initial cost would probably be £100 for a photograph exhibition NOT portraying cases of cancer but general subjects such as pathology, laboratories, radium and x-ray departments, operating theatres, etc. These would be in folding frames for transport.

Local Newspapers. These can be of the greatest help and are extensively used in America, but in my experience English papers are not always very co-operative.

It is most important that surveys should be carried out from time to time in order to judge progress. The science of surveys is very specialised, and one of the first steps in the scheme would be to call in the aid of the Medical Research Council or the Central Office of Information, both of which bodies I believe have specialised in this field.

Having ascertained what data would be required, an approach must be made to the hospitals to obtain these data. The over-worked general practitioner should be molested as little as possible, but a distinctive card to be sent with the patients in all cases of suspected malignant disease would be of great value in ascertaining the "aliveness" of the G.P. to cancer diagnosis, and the number of patients visiting him with symptoms. It would also help the hospitals.

One of the most difficult surveys to carry out is to estimate the fall or increase in the amount of cancer apprehension. People who have not given real thought to the matter are inclined to say, "If we talk about cancer it will increase fear." Any psychologist will tell you that the exact

opposite is true. "To bottle up" worries increases them. I am convinced that cancer education, if carried out *properly*, will diminish fear.

Every practitioner has a considerable knowledge of the symptoms of cancer and should ask himself, "Does that knowledge make me worry about cancer and become a neurasthenic?" If the answer is "No," then why on earth should he think it will have this effect on other people?

Voluntary Help. Officials in all services have learnt by bitter experience the "snags" in obtaining voluntary help. Enthusiasm is inclined to wane and in the end the department has to do the work.

In spite of all this, I do feel that if the population of a large area is to be covered, say, in two years, it can only be done by co-opting voluntary help. The disadvantage of carrying out such education in a small way over many years is, first, the difficulty of estimating any value it may have, and secondly, a factor comes in comparable to Weber's Law, i.e., if a person reads one article per year the result at the end of ten years will be less than if she reads ten articles in the first year. I am convinced that, unless the enthusiasm of the people is aroused, cancer education will be very difficult.

Arguments Against Education

What, then, are the arguments against such education? First, there is the time-honoured but quite erroneous idea that by talking about cancer fear and apprehension will be increased. Since 80,000 people die in their own homes each year and are looked after by their friends and relations aggregating perhaps half a million people, it is obviously impossible to keep cancer a "hush-hush" disease. Had anybody over the age of 25 not heard of cancer?

Since all these friends and relations, adding up to millions in the course of years, see their relations die, in many cases with terrible complications such as incontinence, bleeding, etc., and realise that nothing can be done for them, is it not natural that they should consider cancer as being always incurable? To whom can they turn to ask questions if they are brave enough to do so? Not to the medical profession, who only too often consider such questions denote nervous cancerphobia and must be treated by "laughing it out of the patient." Such treatment generally prevents the patient from ever again talking about cancer; but they do go on thinking.

Crowding the Surgery. It has been suggested that the general practitioner will be swamped with patients. If education is properly conducted it may have the opposite effect. My own experience over many years convinces me that many patients "live on their doctors' doorstep," saying that "they don't feel very well" because they want to be told "You have no sign of cancer," and they are too nervous to utter the word cancer.

Lack of Beds and Facilities. This is not an argument, unless it is hoped that by not diagnosing cancer in the early stage the patient will in time become "untreatable" and will not need to be taken into hospital. Cancer is a progressive disease, and in the early stage will occupy a bed for treatment for half the time that will be required if treated at a later stage.

The real reason why cancer education is not instituted is that people are too busy with matters that offer a quicker return for the expenditure of energy and money.

The results of cancer education will not be seen for at least two years after a scheme has been started, and alas, there will be no fear of a sudden rush, such as some people envisage.

I appeal to every Medical Officer of Health to do something now.

"Knowledge is the antidote to Fear."—EMERSON.

GENETICS AND PREVENTIVE MEDICINE*

By C. O. CARTER, B.A., B.M., M.R.C.P.,
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Editor, "The Eugenics Review"

It is with some trepidation that I have come to speak at a gathering of Medical Officers of Health on this subject because you are practical men, and the practical contribution that human genetics has to make to preventive medicine is at the moment small. But that is only because the science is in its infancy. Mendel's work was rediscovered some 50 years ago and the application of his work to medicine is more recent still. At the moment in this country there is only one university chair that is occupied by a medical geneticist, Prof. Penrose. But I have no doubt that before long genetics will have important practical contributions to make and already, as I hope to show, it has some ideas to offer on the theory of preventive medicine.

But before discussing either the practical or theoretical contributions of genetics to medicine I would like to remind you of current ideas of genetic mechanisms. I will present these in somewhat didactic fashion. They have been worked out in great detail in certain plants and insects and we have good, though less detailed, evidence that they also apply to mammals and, in particular, man.

Hereditary factors, or genes for short, are carried in the nucleus of the cell. They are not situated at random in the nucleus but arranged in line along dark-staining thread-like structures, chromosomes. In the fruitfly it is possible to relate individual genes to particular condensations of material seen under the microscope along the chromosomes. The chromosomes are arranged in pairs, each member of a pair appearing microscopically very similar and carrying much the same complement of genes. In man there are 24 such pairs. In germ cell formation one member only of each pair, and this at random, goes into the germ cells. Germ cells then have 24 unpaired chromosomes. But when two germ cells fuse the corresponding chromosomes from each gamete pair up so that the new individual once again has 24 pairs of chromosomes, one member of each pair derived from the father and one from the mother.

The individual genes are not permanently affected by their temporary association with other genes, they are most of them in fact remarkably stable and are often transmitted unchanged from parent to child for thousands of generations though some of the rarer ones may be lost if none of those possessing them reproduces. But every now and again a gene undergoes a spontaneous change, a mutation; some of these may be due to actual loss of part of the material of the gene, others may be internal rearrangements. Experimentally, the tendency to mutation may be accelerated by any form of ionising radiation, by ultra-violet light and also by some chemical agents such as the nitrogen mustards. Usually such mutations are of small effect, but occasionally they are of large effect. Once a mutation has occurred it may mutate further or may mutate back to the original gene. Presumably, as a result of past mutations there may be several alternative genes or perhaps alternative forms of the same gene at any particular spot on a chromosome, some common, some very rare. An individual or a particular pair of chromosomes may have the same member of the series of allelomorphs on both members of the pair when he is said to be homozygous, or may possess different members of the series when he is said to be heterozygous. The genes for the ABO blood group agglutinogens are allelomorphs, the two commonest combinations in the British Isles being the homozygous OOs and the heterozygous AOs. The relationship between the two members of the pair when they differ may be such that each produces a detectable effect independently of the other, as in the ABO blood group series, or only the effect of one may be

detectable, when this gene is said to be dominant and the other gene is said to be recessive.

There are at least two genes relevant to the development of any particular character, those on the two members of a chromosome pair and some characters appear to be largely controlled by a single pair of genes. Much more often, however, a number of different gene pairs provide the genetic potential for the development of characters and qualities and as with allelomorphs the relationship between two genes not allelomorphs, but affecting the same quality, may be that the effect of each is detectable or that the effect of only one is detectable when they are called epistatic and hypostatic corresponding to dominant and recessive in the case of allelomorphs. Again, though some genes appear to be concerned with the development of only one particular system or quality, most genes are concerned with the development of a great many qualities.

Some genes exert their effect more or less independently of the variations in the environment; others are very much influenced by environmental variations. The general question, which is the more important, heredity or environment, is meaningless, every quality and character is a product of factors of both types. But it is perfectly legitimate to ask whether the variation in any particular quality in a population is due mostly to genetic variation or environmental variation. Most psychologists appear agreed that at the present time about three-quarters of the variation in scores on reliable intelligence tests is due to genetic variation and about one-quarter to environmental variation. This proportion is not, of course, constant and with greater standardisation of the environment the relative importance of genetic variation will increase.

Practical Contributions

Coming to the present practical use of this knowledge, this is almost entirely in the field of giving eugenic prognoses, that is, giving the correct answer to parents who have had a child with a particular disease or deformity and want to know the chances if any further children will be affected in the same way. Or they themselves may have some condition which they are afraid of transmitting to a child. Obviously, for conditions which are for all practical purposes entirely genetically determined, and where the nature and frequency of the gene concerned is known, an exact answer may be given. For recessively determined conditions such as phenyl-pyruvic amentia and amaurotic familial idiocy among varieties of mental defect, the severer form of epidermolysis bullosa dystrophica and xeroderma pigmentosum amongst skin diseases, Cooley's anaemia and sickle-celled anaemia among diseases of the blood the probability of each further child being affected is one in four. Both parents of such children are likely to be heterozygous carriers of the gene for the disorder and their children will be normal, apparently normal, but carriers, and affected in the ratio 1 to 2 to 1. This chance of one in four for each subsequent child is independent of the number already affected. For conditions determined by dominant genes, where one parent is affected the chance of any child being affected is one in two. Where, with a condition known to be due to a dominant gene, neither parent is affected so that a new mutation is responsible, it is most unlikely that further children will be affected. Such diseases are rare individually and where they are serious this must be so since their frequency is closely related to mutations and these are rare events; but in sum they are not inconsiderable. There are constant new discoveries of diseases probably determined in this simple way—for example, in the last 20 years it has been found that a number of cases presenting clinically as neonatal intestinal obstruction, or as steatorrhoea with failure to thrive, or as bronchiectasis, have a common pathology and are probably caused by a recessive gene; the condition is fibrocystic disease of the pancreas.

In many more conditions the precise genetic mechanism is still not elucidated, but it is possible to give parents an

* Address to the Post-graduate Course for M.O.H.s, Cardiff, July 6th, 1951.

empirical estimate of the chances that further children will be affected in the same way. Empirical because it is based merely on collections of families where further children have been born. For example, for anencephaly and for spina bifida, which appear to have a similar cause, the chance of one or other of these malformations occurring in each subsequent pregnancy is about one in 40, compared with the general incidence of one or other of these malformations of about two in 1,000. For harelip, with or without lateral cleft palate, with neither parent affected, the chance of each subsequent child being affected is about one in 25, though if one parent is affected it is about one in seven. On the other hand, for an affected parent who has had no affected children, the chance for the child is about one in 50. For pyloric stenosis the chance for boys subsequent to an affected child is about one in 12 and for girls one in 50 compared with the incidence in the general population, which is about one in 150 for boys and one in 600 for girls. With pyloric stenosis we do not know yet the chance that an affected individual will have affected children for the good reason that before the introduction of Ramstedt's operation a generation ago few of the overtly affected children survived. For juvenile diabetes the chance for subsequent sibs is about one in 20. These are useful figures, but one must put them in proportion for the parent who is making the enquiry. The chance that any random pregnancy will result in a congenitally deformed child is about one in 50 and so following an anencephalic child the chances of having a deformed child are not much more than doubled. As a general rule, if a deformity is common the chance of recurrence in subsequent pregnancies is fairly small and the high chances one in two and one in four apply only to some of the rarer deformities.

Guidance of this kind is a most valuable service to individual parents desperately anxious and often denying themselves further children unnecessarily. If extensively applied it would have some importance to public health. In a recent investigation into the families of 80 children proved to have fibrocystic disease of the pancreas, 19 of them, or nearly a quarter, had had a previous brother or sister affected. If the condition had been diagnosed in this first child and the parents informed of the risk, few of these further 19 children would have been born. The decision whether to have further children must rest, of course, with the parents, but they are entitled to a knowledge of chances.

Eugenic Prophylaxis

The next practical step when one knows from the illness of a previous child, or from the family history that it is likely that a child will be affected, is to find means of preventing the genes taking effect; presumably, there are environmental means of preventing development of all such genetically determined diseases if only we knew what these were. There is only one example I know of at the moment and that is with a rare condition known as congenital galactosuria. Children with this disorder are unable to metabolise galactose which forms half the molecule of milk sugar, the substance builds up in the blood and spills over into the urine. In high blood concentrations it is toxic and these children die of liver failure with severe jaundice or if they survive are left with cirrhotic livers, some degree of mental defect and cataract. Not enough families are available yet for genetic analysis but there is no doubt that the chance of recurrence in subsequent siblings is high. Once these children are no longer fed milk they do all right. There is little galactose in other foods and a substitute milk can be made for them. One imagines that if later children in such families were tested at birth for their galactose tolerance and then those affected were kept off milk from birth they would grow normally. The opportunity to test this has not yet arrived as most of the parents of children with this disorder have already lost one or two children by the time the disease has been recognised and are naturally reluctant to have further children. The possibilities of prophylaxis are obviously greatest where the condition is only partly determined genetically; most,

but not all, of the identical twins of individuals with pyloric stenosis, juvenile diabetes or schizophrenia also get the disease; the identical twins who do not get it must have been protected in some way by the environment. If we could find what this additional factor is we could apply it to all individuals whose family histories or defects show them to be particularly liable to suffer from such disorders.

Organisation

There is need for some thought on how best to provide an organisation for giving parents a eugenic prognosis. The information is not readily available, resting in scattered literature. For all but the most straightforward cases I think there is a need of some sort of area genetic clinic when personnel trained in genetics and medicine becomes available. The kind of difficulty one meets in practice is that in some instances, apparently, the same condition can be caused by a number of different genes behaving in different ways; for example, retinitis pigmentosa may be due to dominant, sex-linked or recessive genes. Only by taking a family history and knowing how to evaluate it can one give an opinion in an individual case of retinitis pigmentosa. Again, in some instances the problem arises as to whether the condition in an affected child is due to a new mutation in one of the germ cells that formed the child, in which case subsequent brothers or sisters will not be affected, though the affected child's own progeny are at risk. This problem arises, for example, with a mother who has had one haemophilic boy; if she has haemophilic brothers the answer is simple, she is a carrier of the sex-linked recessive gene for haemophilia and the chance of each of her sons having haemophilia is a half and of each of her daughters being unaffected carriers like herself is also a half. If she has no brothers, or they are all healthy, it is difficult to tell whether the mother can safely have further children or not.

Dr. Fraser Roberts, who holds a genetic clinic at The Hospital for Sick Children, Great Ormond Street, takes the view that in most cases the best solution will be to have a medical geneticist in charge of the clinic at each area to whom parents may be sent for consultation after the clinical diagnosis in the affected child has been established. Such an individual should be able to cover the genetics of most fields of medicine, except perhaps psychiatry, provided that the clinical diagnosis is already established.

Theoretical Contribution of Genetics to Preventive Medicine

The main theoretical contribution of genetics to preventive medicine is that it poses an awkward question. Are we in the long run doing any good at all by our preventive and curative medical service? I suggest to you in all seriousness that there is a possibility that we are not, except in those instances where we have almost completely eliminated the causative agent of a disease, as, for example, with cholera in this country. In all other instances any improvement we make will be temporary and in the long run cancelled out by genetic deterioration of the population.

This may be a surprising idea to some of you who may think that where environmental improvements largely abolish natural selection the genetic position of the population would at least remain constant. This is not so. Genes have a constant tendency to mutate and a great majority of the genes arising from mutations are disadvantageous, if they had not been disadvantageous they would have long ago replaced the normal common gene. Although the rates of mutations of individual genes are low there are a great many genes—perhaps about five to 10,000 in humans—and the best available estimate is that about one gamete in ten contains a new mutation. Some of these will be affecting physical qualities and some mental qualities. The basic relationship between mutation and natural selection is that genetic equilibrium will be maintained if the number of genes selectively eliminated in each generation corresponds to the number of new genes of the same type appearing as a result of mutations.

The relationship is best seen for conditions simply determined by dominant or recessive genes. Where the condition is due to a dominant gene and is lethal before reproductive age, the proportion of children born with the condition will be twice the mutation rate (twice because there is a pair of chromosomes carrying this gene which may mutate), with the death of each new affected individual, one of the new mutated genes is lost and so the number eliminated in each generation is twice the mutation rate. Achondroplasia, a type of dwarfism with which you will all be familiar, is probably due to a dominant gene and fitness in the sense of ability to have the average number of offspring is probably reduced by about nine-tenths, partly because of deaths in early childhood and partly by reduction in marriage rate. So the frequency of the condition is not twice the mutation rate but 2.2 times the mutation rate. If we found some way of largely preventing the achondroplastic gene from taking effect so that the reduction in fitness was only one-tenth, then the proportion of achondroplasias would be raised nine times and jump to nearly 20 times the mutation rate; then once again the number of genes are eliminated in each generation, one-tenth of 20 times the mutation rate, would balance the new genes appearing by new mutations. It would not rise to quite 20 times the mutation rate because a small proportion of achondroplastic genes would be mutating back to the original normal form. If achondroplasias are rendered fully fit then the relative numbers of normals and achondroplasias would reach equilibrium at a level determined by the relative mutation rates to the achondroplastic gene and back again.

With recessive conditions the same argument holds good. Here the new mutation is only exposed to selection when it appears in the homozygous state so such mutations can survive many generations in the carrier state. With a death due to a recessive condition two of the mutated genes are lost, not one, and so equilibrium is reached when the proportion of affected individuals is equal to (and not double as with dominants) the mutation rate. Where fitness is in effect zero, as, for example, with phenyl-pyruvic amentia and other examples I gave earlier, the proportion of affected individuals when the population is in equilibrium equals the mutation rate. If we found some way of treating phenyl-pyruvic amentia so that fitness was increased from zero to nine-tenths, then the proportion of aments of this type born would be raised ten times, that is, from about one in 50,000 to about one in 5,000. In contrast to conditions determined by dominant genes, this rise would be slow and take many generations. If fitness was raised to unity, then the proportion of phenyl-pyruvic aments would be raised to a level determined by the relative mutation rates to and back from the gene responsible.

It is not difficult then to appreciate the relation between mutation and selection for conditions which are for all practical purposes entirely determined by hereditary factors, but the same principles apply for any condition in which genetic factors play a part, whether few or many pairs of genes are concerned, whether they exert their effect independently of environmental variations or not. For example, juvenile diabetes, that is the type of diabetes which affects children and young adults, is probably determined in large part by recessive genes, although not all those who have the hereditary predisposition develop the condition. Before the discovery of insulin the fitness of those who developed juvenile diabetes was small. I have no figures for fitness now but at a very rough guess it would be about a half and if it is maintained at about this level we may expect the frequency of juvenile diabetes to double. If we can find the additional environmental factor necessary for the development of diabetes we may be able to prevent many of those genetically predisposed developing the disease at all, but if there is no selection the number of genetically predisposed children will further increase to the level determined by the relative mutation rates and more and more children will need the special nurture required to prevent them developing diabetes.

Exactly the same considerations apply to infectious diseases and diseases, such as acute nephritis and rheumatic fever, which are unusual responses to infections whenever genetic factors play some part in deciding the response to the infectious agent. There is good evidence from twin studies that resistance to tuberculosis is in part determined genetically. There are probably at least three groups of factors concerned in the course a tuberculous infection takes in a child, the genetic potentialities for developing resistance, the general standard of nurture and the age of the child; no doubt there are other factors such as the invasiveness of that particular strain of tubercle bacillus and the massiveness of the initial infection, but these are less well established. Selection for genetic resistance to tuberculosis will be greatest when the whole population is exposed to infection and the standard of living is low as in the poorer quarters of big cities. Selection will be least in those country districts where few people ever meet a tubercle bacillus. In a population long resident in an urban slum one would expect tuberculosis to be unimportant as a cause of death. There would still be some deaths from it equivalent to the new mutations reducing the genetic resistance to the disease. On the other hand, if there was a constant influx of newcomers from areas with little tuberculosis into such a community, these newcomers would undergo rigorous selection for resistance and deaths from tuberculosis among them would be high; the survivors would have a high natural resistance and join the old population in their relative immunity.

In this country there are at the moment, I imagine, at the same time a major tendency to increased selection for resistance to tuberculosis due to increased urbanisation, and a minor counterbalancing reduction of intensity of selection for resistance to tuberculosis from improved standards of living in the towns. But we must realise that under static conditions there will always be enough deaths from tuberculosis to balance mutations lowering resistance, and that if we improve environment the genetic susceptibility of the population will increase, so that when the new standards of life become static at the new higher level deaths from tuberculosis will catch up again to the original level. This is a very real dilemma unless we can eliminate the cause of a disease altogether, possible perhaps with tuberculosis but very difficult with the haemolytic streptococci which are usually responsible for nephritis or rheumatic fever. Unless environmental improvement is steadily sustained we will always return to the *status quo*.

There is a way out of this dilemma and that is offered by the advent of family planning. It was family planning, with its decrease of the pressure of population on resources resulting in a rise of the standard of living, and also providing fewer children on which natural selection could act that posed the problem. But deliberate family planning also provides a possible answer since it makes possible some sort of artificial selection by deliberate choice of the parents themselves; artificial selection which can be much more efficient than the natural selection it replaces. As with everything else, there are good and bad ways of bringing about the artificial selection that we must have. After certain continental efforts, I think most people would sympathise with the attitude expressed recently by the Catholic Hierarchy that we must be very suspicious of any "excess of State action in these matters."

What is needed is the creation of an informed public opinion and the provision within the Health Service of an organisation for giving technical advice to those who ask for it; the ultimate decision on family size must rest with the parents themselves. Rarely will it be necessary for them to plan no children at all. If those who, on the whole, have the bad luck to be ill-endowed genetically plan, say, two-child families, they are reducing their fitness by between a third and a fifth. It will be more difficult, I imagine, to persuade those well endowed to plan the compensatory five- or six-child families. Any progress in reducing the genetic element in the development of disease and deformity or, if one prefers it, any progress in improving the genetic potentiality for the

development of positive health will be slow. One must be prepared to aim for benefits five or even ten generations ahead. Genetic progress will never be complete unless we learn to control mutations. But some attempt at artificial selection is essential since environmental improvement by itself can in most instances have no lasting effect. Only by a combination of environmental improvement and genetic improvement can the health standards of the population be permanently and progressively raised.

CORRESPONDENCE

VACCINATION POLICY To the Editor of PUBLIC HEALTH

SIR,—I have read with interest the statement of Vaccination Policy issued by the Council of the Society of Medical Officers of Health and published in the August issue of PUBLIC HEALTH. I venture to submit a few comments.

The statement begins at once on a very confident note: "The Society of Medical Officers of Health reaffirms its complete confidence in vaccination as a means of protection of the individual and the community against smallpox, if carried out properly and at appropriate intervals." Nothing could be more definite than that—short, simple and to the point, and without any qualification. May I suggest that it is a little too reassuring?

The appropriate intervals recommended are only twice in a lifetime, in the first six months of infancy and again during school age (*cf.* British troops abroad have to be revaccinated every two years). Nothing is said about any supplementary or alternative measures which should also be carried out. No doubt the writers of the statement assume that these will be carried out, but at least they might have been mentioned, for without their help, have we any assurance that vaccination alone would suffice? The evidence is rather the other way.

In the World Health Organisation's *Epidemiological and Vital Statistics Report* for February–March, 1951, Dr. Pascua, Director of the Division of Health Statistics of W.H.O., has a very valuable monograph entitled "Evolution of Mortality in Europe during the Twentieth Century," in which he publishes a table showing the total smallpox deaths in eight European countries during each of the years 1901–49. From this table it appears that the countries with the lowest smallpox mortality were England and Wales and Germany. We used to be taught, during the early years of this century, that Germany was the outstanding example of what vaccination could do, but I see that in the five years 1917–21 Germany had no fewer than 1,653 deaths. No figures are given for Germany later than 1939, but if we take the 44 years, 1906–49, and ignore the last nine years for Germany, I see that she had 2,163 deaths compared with only 421 for England and Wales. If we reckon her population as approximately twice that of this country it means that she has had more than twice as many deaths from smallpox in proportion to population, and this during a period when vaccination has been notoriously neglected in this country.

Apart from Germany there is no country which can claim to have succeeded in effectively controlling smallpox by vaccination.

I may be told that in no country has vaccination been satisfactorily carried out, "properly and at appropriate intervals." This may be true and if it has not been possible in Germany it is not likely to be possible in this country. But is it not rather playing with words to assert that one has complete confidence in something if properly carried out, when one knows it never can be properly carried out?

Moreover, during the last 40 years alternative measures such as hospital isolation and the control of contacts have been increasingly carried out and during that time smallpox deaths have steadily declined. During the whole period, 1901–49, there have been in this country, as stated above, 421 deaths, but during the last 19 years, 1931–49, there have been only 52 deaths. It may be said that this is only a short period and that smallpox may return, but if we look at the other European countries we note a similar decline. Even in Spain and Italy, which suffered very severely during the first quarter of this century, an equally dramatic decline has occurred. Indeed, it has been much more marked. It certainly looks therefore as if smallpox was tending to leave Europe, irrespective of vaccination.

There has been a similar decline in the European countries in the case of typhoid and paratyphoid fevers, scarlet fever, whooping cough and measles.

One further comment: Under (iv) the statement says: "That in the presence of smallpox in an area, reliance should be placed on selective vaccination of contacts (the "expanding ring" system) and not on mass vaccination." I quite agree with this

but it goes on to say: "The Medical Officer of Health should, however, bear in mind that as soon as smallpox is notified in his area, a demand for mass vaccination may arise from the public, and he should therefore plan at once the organisation of such a measure." This puts a Medical Officer of Health in a very difficult position. He is asked to prepare a measure in which he may not believe, and which is not recommended by the Society of M.O.H., merely because a demand for it may arise from the public. Surely it seems desirable that the Ministry of Health should issue in advance a very definite statement that mass vaccination is not in ordinary circumstances desirable.

As regards Dr. Rutherford Cramb's letter (PUBLIC HEALTH, September, 1951), he writes:—

"I viewed the mounting figures of vaccination with satisfaction and consider this preventive measure played an important role in limiting the spread. While there were many instances of its efficacy I quote one. This was an unvaccinated widow with an unvaccinated son of 12½; she was a domestic in Bevedean Hospital, who lived out and contracted smallpox (Case 13). When the ambulance attendants arrived to remove her the boy clung to his mother, embracing and kissing her. Her rash was then well out. As there were no relatives he was vaccinated immediately, taken to the hospital and kept there in an isolated side-room. He did not contract smallpox: his mother died."

I am at a loss to understand why Dr. Cramb should quote this case, as it was clearly not one of "mass vaccination." I should certainly have vaccinated such a case myself, as it was a known and close contact.

Yours faithfully,

C. KILLICK MILLARD.

The Gilroes,
Leicester.

September 11th, 1951.

PREVENTION OF MENTAL DEFECT To the Editor of PUBLIC HEALTH

SIR,—With reference to Dr. Jones's interesting article, "The Social Implications of Mental Deficiency,"* I wonder why there is so little mention in the literature how we may reduce the incidence of mental defect. I am sure that your readers will have many suggestions to make. I have in mind some rules, *e.g.*, every mother to have a Wassermann and/or Kahn test and a test for Rhesus factor in every pregnancy; better control of infectious disease in early pregnancy, *e.g.*, rubella and respiratory disorders.

Are there any other suggestions?

Yours faithfully,

ENQUIRER.

September 12th, 1951.

* PUBLIC HEALTH (August, 1951), 64, 206.

R.M.B.F. CHRISTMAS GIFTS FUND APPEAL To the Editor of PUBLIC HEALTH

SIR,—I appeal to members of the Medical Profession, whether subscribers or not, to send donations to the Christmas Gifts Fund for Beneficiaries of the Royal Medical Benevolent Fund.

The Committee generally try to send a present of £5 to each Beneficiary. I, therefore, hope that there will be a generous response to this Appeal.

Christmas gifts have a very deep and special significance for they make the Beneficiaries realise that they are being remembered by their more fortunate colleagues. In the present difficult times Christmas gifts are more urgently needed than ever before.

Contributions should be sent to the Secretary of the Royal Medical Benevolent Fund, 1, Balliol House, Manor Fields, Putney, London, S.W.15, and marked "Christmas Gifts."

Yours very truly,

WEBB-JOHNSON,

President,

Royal Medical Benevolent Fund.

1, Balliol House,
Manor Fields,
Putney,
London, S.W.15.

September 1st, 1951.

INSTALLATION OF PRESIDENT, 1951-52

Dr. W. G. Clark, medical officer of health, City of Edinburgh, will be installed as President of the Society of Medical Officers of Health for the session 1951-52 by the retiring President (Dr. J. M. Gibson) at an Ordinary Meeting to be held at Tavistock House, London, W.C.1, on Thursday, October 18th, 1951, at 5.30 p.m. Dr. Clark will deliver his Presidential Address after his installation.

SOCIETY OF MEDICAL OFFICERS OF HEALTH

POST-GRADUATE COURSE FOR M.O.S.H., CARDIFF, JULY 2nd to 6th, 1951

The first Post-graduate Course for Medical Officers of Health of all types of authority since the war was held in Cardiff on Monday, July 2nd, to Friday, July 6th, 1951, by the co-operation of the Society, Prof. F. Grundy, Mansell Talbot Professor of Preventive Medicine, Welsh National School of Medicine, and of the Cardiff City Health Department (Dr. J. Greenwood Wilson, M.O.H.).

Some 25 M.O.s attended either the whole or part of the Course and were accommodated in the Aberdare Hall, Cathays Park, a students' hostel which makes a charming setting for such meetings as this.

The members assembled on the evening of Monday, July 2nd, and, after dinner, a short address of welcome was given by Prof. R. M. F. Picken, Provost of the Welsh National School of Medicine, who drew on his long experience of public health work to give some wise advice to the present generation. Prof. Grundy outlined the items of the Course and Dr. J. Greenwood Wilson (M.O.H., Cardiff) also spoke about details of the programme.

On the morning of Tuesday, July 3rd, the members heard a fascinating address on the teaching of bacteriology as an aspect of epidemiology by Dr. Scott Thomas, director of the Public Health Laboratory Service, Cardiff. One of his listeners paid him the highest compliment by saying he would have willingly exchanged all his teachers in bacteriology for Dr. Thomson. This address was followed by a paper by Dr. S. H. Graham, Chest Physician, Cardiff, which was read in his absence, through illness, by Prof. Grundy, and was printed in our September issue.

Pneumoconiosis

In the afternoon a visit was paid to the Pneumoconiosis Research Unit, M.R.C., Llandough Hospital. Dr. C. M. Fletcher, director of the Unit, gave a description of its work and of the Rhondda Fach Scheme which is summarised below:—

Pneumoconiosis may arise in a large number of industries, but in Great Britain to-day over 90% of cases arise in the coal-mining industry and of these 90% arise in the South Wales coal-fields. The preponderance of cases derived from the coal-mining industry is chiefly due to the very large numbers of men employed in this industry compared with other industries with the pneumoconiosis hazard. Because of the size of the problem of pneumoconiosis in coal-mines and its concentration in the South Wales coal-field, the problem has been studied most intensively in this area. Here, the incidence has always been highest in the anthracite mines, intermediate in the steam coal-mines and much lower in the bituminous coal-mines. This fact has led to the suggestion that the severity of the disease is related to the type of coal, but in South Wales there has also been a relationship between the type of coal and the dustiness of the mine, so that this changing incidence across the coal-field may simply be due to the differing amounts of dust in the air. Mines in the rest of Great Britain have, on the whole, been less dusty than those in South Wales and this may account for the difference in incidence in the two areas, but there is also some evidence that at mines of equivalent dustiness there is less pneumoconiosis in England than in South Wales.

The concentration of the disease in South Wales, where coal-mining is the basic industry, has resulted in widespread unemployment among affected men. In recent years the establishment of light industries with Government encouragement has gone far towards solving this problem, but there are still to-day nearly 3,000 unemployed cases of pneumoconiosis who could undertake light industrial jobs.

Coal-workers' pneumoconiosis is pathologically and radiologically distinct from classical silicosis. There appear to be two disease stages. In the first, called simple pneumoconiosis, coal-dust tends to accumulate in small deposits throughout the lung fields, giving rise to a fine granular appearance in radiographs. This condition does not show radiological progression after dust exposure has ceased. Three radiological categories of increasing abnormality have been defined. Simple pneumoconiosis does not usually result in severe disability. The second disease process is one categorised pathologically by massive fibrosis and radiologically by large massive shadows. In its early stages, the radiological appearance resembles tuberculosis. Once this condition has been established it advances in a large majority of cases with resulting lung distortion, bullous emphysema and gross disability. Massive fibrosis does not appear to arise in cases with less than category two simple pneumoconiosis. Massive fibrosis is thought to be usually the result of tuberculous infection acting in a lung already affected by simple pneumoconiosis.

Prevention is to be achieved by dust suppression, but since the level of dustiness, which will not give rise to the disease, has not yet been defined, it is suggested that periodic examinations of all underground workers should be initiated in order to detect any cases that may be developing early radiographic abnormalities who could be advised to leave the dusty environment before they have accumulated sufficient dust in their lungs to become liable to massive fibrosis.

A radiographic survey in a mining valley has recently been undertaken in order to try to reduce tuberculous infectivity in the valley. The effects upon the development of massive fibrosis in cases with simple pneumoconiosis will be observed. This study should throw much light on the tuberculous nature of the condition and the epidemiology of tuberculosis in this area.

Asthma—Research and After-Care

On Wednesday, July 4th, Dr. D. A. Williams, director of the Asthma and Allergy Research Unit, St. David's Hospital, Cardiff, gave an address which was reproduced in our September issue. He was followed by Miss Mary Davies, Health Visitor Tutor, Welsh National School of Medicine, and Health Visitor, City of Cardiff, who gave an account of the Cardiff scheme for after-care of asthmatics discharged from hospital in that city. The following is an abridgment:—

Health visitors in Cardiff feel they are indeed privileged to contribute in some measure to this important Asthma Research Scheme. The collecting of information purposely and specifically for research is a new venture for them.

The main project concerns an investigation into the relative importance of the allergic, infective and psychological factors in asthma. It is concerned also with the socio-medical aspects of the disease, and it is in this direction particularly that it is considered that the health visitor might be able to make a practical contribution.

Previous Developments in Cardiff.—Cardiff has for many years recognised the importance of after-care of patients discharged from hospital, and schemes were instituted for diabetic and peptic ulcer patients in 1944. The medical aspects of this after-care have as their main aim the improvement of the medical condition of the patient, and it is essentially a continuation of his treatment, designed to lessen the impact of his illness upon his family. This after-care was later extended to premature babies and sick children. Liaison with the hospital services is at the health visitor's level and a valuable link has been established between the Hospital Paediatric Unit and the Infant Welfare Department.

This extension of the health visitor's duties helps her to deal with the family as a unit, of which the patient is a member. In all these schemes she learns through her visit to the hospital and clinic what the physician requires for the after-care of these patients; she reports on the home environment, and carries out a judicious follow-up in the home. Health visitors find this work satisfying and interesting because they feel that the best use is being made of their knowledge and training.

A New Development

(a) *Questionnaire.*—The information is collected for the Asthma Research Scheme through the filling in of a questionnaire by the health visitor. This questionnaire consists of a series of questions carefully designed by the Statistician of the Welsh National School of Medicine to give the information required by the Asthma Unit. This information can later be interpreted and analysed by the Statistical Department.

Three health visitors are engaged part-time on this work. Appointments are made by the health visitor for new patients to attend for interview at the Asthma Unit, and at the interview advice is given on rest, diet, vitamins, use of inhalers, tablets and control of feather and house dust. Reports are given on the home environment; from damp houses samples of mould are sometimes collected and if necessary a vaccine prepared from them.

A record is kept of the day the patient is interviewed, so that he can be given an appointment to attend at precisely the same time next year. Questions, particularly regarding seasonal incidence, are therefore asked at the same time each year. Care has been taken to have a uniform standard of interviewing amongst the health visitors and footnotes are added to each page of the questionnaire for their guidance.

(b) *Controls.*—Each patient is paired according to his age, sex and civil state. Occupation and social classes are not included and will later be tested against official figures. Controls are picked out at random by the health visitor from patients attending the Fracture Unit, and a high percentage of them agree to co-operate. Questions put to controls relate to the date of onset of asthma of the patient with whom he is paired. Health visitors carry out the skin testing for mould allergy, and they make appointments for the patients and controls to be X-rayed, examined by the

E.N.T. specialist and the psychiatric consultant attached to the clinic. The psychiatrist assesses the amount of nervous illness or obvious mental stress present, and measures what factors might have brought on the illness and the reason for the onset.

Information Obtained from Other Sources

Student Welfare Department, University of Wales.—Student Welfare Officers are collecting information from students attending the University. They compare the past medical history of students with asthma with those giving no such history. In one year information was obtained from 12,000 students and it is likely that the same number will be interviewed in subsequent years.

Incidence of Asthma in School-children in Cardiff.—Through the co-operation of the Medical Officer of Health, the medical officers and health visitors are sifting out the number of school-children with asthma. This is carried out during school medical inspections. The school population is approximately 35,000 so that it will take five years to include each child. A list of the name and address of each child with asthma is sent to the Asthma Unit and any child who has not attended the Asthma Clinic and any doubtful case will be examined and ascertained in the Asthma Clinic. Those who fail to attend will be followed up by the health visitor.

School Attendance Rate of Asthmatic Children Compared with the Attendance Rate of Other Children in Cardiff.—This scheme is possible through the co-operation of the Director of Education and his school welfare officers. These officers have visited the Asthma Unit, appreciate the importance of the work, and give ready co-operation. The frequency distribution of absences of each asthmatic child is measured week by week, and compared with the attendance rate of other children, according to their age, sex, class and school.

It is the opinion of the Director of this Asthma Unit that it is appropriate that the health visitor, with her nursing and health visiting experience, should make a contribution to this work. Although the main purpose of this scheme is to collect data, the Director and his staff review the problems of each individual patient, who is helped in various ways to adapt himself to his environment, according to his capacity and intelligence.

The next speaker was Dr. E. Lewis-Fanning, statistician, Welsh National School of Medicine, whose address, "Surveys and Samples," was published in our September issue.

The members attending the Course were then entertained to luncheon by the Lord Mayor of Cardiff, an occasion which gave great pleasure. In the afternoon a visit was paid to the Neonatal Department at St. David's Hospital, Cardiff, by invitation of Dr. A. G. Watkins, Prof. of Child Health, Welsh National School of Medicine. This hospital has a maternity department of just over 2,000 births per annum, and the babies are under the care of a Consultant Paediatrician who has the valuable assistance of a Sister, whose sole duties are concerned with the care of the baby and promoting maternal lactation. In the ante-natal period a high proportion of the mothers attend a Lactation Clinic and from these mothers donors are selected for the Breast Milk Bank. The Milk Bank was inspected. It provides approximately 225 pints per week of pooled pasteurised breast milk. This is used mainly in the premature baby unit but can be, and is, sent by rail to any hospital on request. The premature baby unit of 24 cots was visited. The babies are nursed initially in oxygen cots with no clothing and feeding is on demand. This demand feeding technique is passed on to the mother's ward where they stay at the foot or side of her bed. Babies are not bathed until due to go home and it is believed that this reduces sepsis as well as the tasks of the maternity nurse. It was, Prof. Watkins said, interesting and encouraging to hear the comment of one of the visitors, "that the department was really practising preventive medicine."

A small group of M.O.H.s, who have been invited to conduct infant morbidity surveys in their area, met at the Institute of Preventive Medicine on the same afternoon to discuss the project with Prof. Grundy, Dr. R. M. Dykes (M.O.H., Luton), and Dr. E. Lewis-Fanning. Methods of coding and mechanical tabulation were demonstrated. There was a useful discussion on certain modifications of the forms to be used in these surveys.

Medical Services of the National Coal Board

On Thursday, July 5th, Dr. T. H. Jenkins, Divisional M.O., Welsh National Coal Board, spoke of the medical service of the Board and the party then visited selected coal-mines and saw the arrangements for dust suppression, first-aid and sanitation underground, and first-aid, medical and bath arrangements on the surface. In the afternoon a visit was paid to the Miners' Rehabilitation Centre, Talygarn. Dr. Jenkins' talk is abridged as follows:—

There are a large number of provisions in the Coal Mines Act, 1911, and the General Regulations made thereunder relating to

safety and health. Colliery Managers are responsible for implementing the existing regulations. However, statutory requirements can go no further and seldom so far as what constitutes good mining practice.

The N.C.B. is desirous of providing coal-mining with a medical service at least comparable with that provided by other progressive industrial concerns. It is a more intricate problem in coal-mining because of the wide distribution and varying sizes of the collieries and the fact that underground workmen are mainly available for examination, treatment and advice at the beginning and end of shifts only.

The Dale Committee set up by the Prime Minister to examine the relationship of the Industrial Medical and National Health Service in 1949 has now reported and the N.C.B. is now free to develop a medical service appropriate to its needs.

A fully established medical service can do a great deal to control and mitigate the effects of the hazards of coal-mining. The National Health Service is essentially a personal health service and does not attempt, in any way, to cover industrial medical services. The Medical Service in coal-mining aims at providing the following:—

- (i) First treatment of serious and minor injuries and minor ailments at work.
- (ii) Further treatment of certain types of injury, including physiotherapy, with the acquiescence of the person's own doctor.
- (iii) Medical examination of industrial and non-industrial staff:
 - (a) Pre-employment.
 - (b) Periodical, especially of persons exposed to certain hazards.
 - (c) Statutory, e.g., Rescue Brigade-men, Firemen and Deputies, Key personnel, e.g., Winding Engineers.
- (iv) Training and supervision of the Nursing organisation.
- (v) Training and supervision of the First-Aid organisation.
- (vi) Supervision of the Morphia in Mine Scheme.
- (vii) General advice to Colliery Management and Colliery Consultative Committees on
 - (a) Health hazards.
 - (b) Hygiene.
 - (c) Resettlement and upgrading of injured and sick workmen returning to work.
- (viii) Provision of adequate records and statistics on injury, sickness and disease.
- (ix) Implementation of the results and recommendations of Medical Research.
- (x) Effective liaison with the Safety Departments.

There are approximately 700,000 persons employed in the eight Divisions (consisting of 48 coal-producing Areas) of the National Coal Board. A high standard of First-Aid will always be required in mining, especially underground, where the vast majority of accidents occur. The personnel employed in the medical service will consist of the requisite number of:—

- (i) Medical Officers (full and part-time).
- (ii) Nurses.
- (iii) First-Aid Men
 - (a) First-Aid Officers on an Area basis.
 - (b) First-Aid Room Attendants (full and part-time).
 - (c) Underground First-Aid Men.

The number and distribution of the various personnel will obviously depend largely on local circumstances. Nurses will be in charge of the Medical Centres. The Medical Officer will be in charge of the services covering groups of Collieries under the direction of the Divisional Medical Officer who will be responsible for the medical services in his own Division. The Chief Medical Officer, among other duties, would co-ordinate the activities of the various Divisions and would advise the National Board in all matters affecting the health of the miner. At all levels there would be liaison with the various branches of the Coal Board. The build-up of the service will take time; good progress has already been made and will continue to be made.

On the morning of Friday, July 6th, Dr. C. O. Carter, Hospital for Sick Children, Great Ormond Street, gave an address on Genetics and Preventive Medicine (reproduced on other pages of this issue). Later in the morning Dr. Emrys Harries, medical superintendent of the City Isolation Hospital, gave a case demonstration followed by discussion.

The final event of the Course was a visit on Friday afternoon to the National Museum of Wales, conducted by the Director, Dr. Dilwyn John.

The Course was much enjoyed by those who attended and particular gratitude was expressed to Prof. Fred Grundy, to whose initiative the Course was due and who was mostly responsible for the excellent arrangements, and to Miss Olwen Parry, Warden of Aberdare Hall, and the students who acted as domestic staff during the Course.

EAST ANGLIAN BRANCH

President: Dr. J. C. Johnston (M.O.H., Docking and Walsingham R.D.s, Wells U.D., and A.C.M.O.H., Norfolk C.C.).
Hon. Secretary: Dr. A. J. Rae (Dep. C.M.O.H., West Suffolk C.C.).

A meeting of the Branch was held at the Borough Offices, Bury St. Edmunds, on Saturday, June 9th, 1951, at 3 p.m. The President was in the chair and 24 members and visitors were present.

Dr. R. A. Leader, Medical Officer of Health, County Borough of Ipswich, was unanimously elected President of the Branch for the ensuing session, and also representative of the Branch on the Tuberculosis Group. Dr. T. Ruddock-West, the representative on the Council of the Society, the Honorary Secretary, Dr. A. J. Rae, and the Honorary Treasurer, Dr. T. A. H. Smith, were asked to continue in these offices for another year, and agreed to do so.

Short complementary talks on "Well-water Cyanosis" were given by Dr. J. P. Quinton, Children's Physician centred on Norwich, and Dr. R. M. Mayon-White, Children's Physician centred on Ipswich, who described the cases which had come to their notice in East Anglia during the past three years. Dr. Eric Wood, County Analyst, spoke on the chemical analysis of the waters concerned, and Dr. D. Gairdner, Children's Physician centred on Cambridge, took part in the discussion which followed. A hearty vote of thanks was accorded to the speakers for an interesting and profitable afternoon.

Committee for Research in Preventive Medicine.—After tea the President reported upon the Committee Meetings which had been held at Norwich on May 19th, 1951, and at Bury St. Edmunds earlier in the day. The Branch agreed with the recommendations made by the Committee, and noted that the Committee would attend a meeting arranged by Prof. Banks at Cambridge on June 18th, 1951.

HOME COUNTIES' BRANCH

President: Dr. J. C. Sleight (M.O.H., St. Albans and Div. M.O., Herts.).

Hon. Secretary: Dr. J. Maddison (M.O.H., Twickenham M.B. and Area M.O., Middlesex).

A meeting of the Branch, to which members of the Metropolitan Branch and of the Fever Hospital Medical Service Group were invited, was held at 3 p.m. on Friday, July 13th, 1951, at the London School of Hygiene and Tropical Medicine, London, W.C.1. The President of the Home Counties' Branch was in the chair and 56 members were present.

Sir Philip Manson-Bahr, C.M.B., D.S.O., gave an absorbingly interesting talk on "The Romantic Story of Insect-Borne Disease," which he illustrated with his own lantern slides.

The Hon. Secretary reported that the following members of the Branch were eligible for Life Membership of the Society and it was unanimously resolved that their names should be put forward to the Council for nomination as fully-paid Life Members:—

Dr. T. P. Cole, formerly M.O.H., Beckenham, who joined the Society in 1923.

Dr. T. J. Nicholl, formerly M.O.H., East Kent (No. 2) Urban District, who joined the Society in 1920.

The following Officers and Representatives were elected to serve for the session 1951-52:—

President.—Dr. F. G. Brown.

Hon. Treasurer.—Dr. K. E. Tapper (re-elected).

Hon. Secretary.—Dr. J. Maddison (re-elected).

Representatives on the Council of the Society.—President, Hon. Secretary (re-elected) and Dr. C. Herington (re-elected).

Public Health (Leprosy) Regulations, 1951

Members expressed very serious concern with the method of notification of leprosy under the new Public Health (Leprosy) Regulations, 1951. One after another, the Medical Officers of Health present expressed their disapproval of the method of notification adopted in these regulations. They pointed out that it has been their duty and trust to receive notifications of infectious diseases for many years and in no instance that anyone could recall had they failed in that trust. They strongly resented the criticism, which must be implied in the method of notification adopted in the regulations, that they were not capable of handling such matters with tact, secrecy and a full sense of the responsibility.

It was pointed out that if this principle of direct notification to the Ministry was once accepted without protest, it may well lead to further curtailment of the trust and responsibility traditionally accepted by Medical Officers of Health. It was the thin edge of the wedge and would become the excuse for further inroads by the Ministry into the duties of Medical Officers—a course which is bitterly resented.

In passing the following resolution (which was to be forwarded to the Council of the Society) it was suggested that if the Council

were in agreement with the point of view expressed therein, they might consider sending a similar protest to the Associations of Local Authorities.

Resolved: That the Hon. Secretary be instructed, on behalf of members of the Home Counties' Branch, to make the strongest possible protest against the autocratic and high-handed action which had been taken by the Ministry concerning notifications under the Public Health (Leprosy) Regulations, 1951.

METROPOLITAN BRANCH

President: Dr. E. Smithard (M.O.H., Lewisham Met. B.).

Hon. Secretary: Dr. F. M. Day (M.O.H., Hammersmith Met. B.).

A meeting of the Branch was held at 5.30 p.m. on Friday, May 11th, 1951, in the Old Library, B.M.A. House, Tavistock Square, W.C.1.

The Hon. Treasurer submitted a statement of the income and expenditure of the Branch and the Balance Sheet as at April 30th, 1951.

Reports on the activities of the Branch and the work of the Borough Medical Officers' Committee were submitted by the Hon. Secretary and Dr. J. A. Struthers respectively.

The undermentioned officers were elected for the year commencing September 1st, 1951.

President.—Dr. W. H. Bradley.

Vice-Presidents.—Dr. E. H. R. Smithard, M.B.E., and Dr. F. R. O'Shield.

Hon. Treasurer.—Dr. A. J. Shinnie, O.B.E.

Hon. Secretary.—Dr. F. M. Day.

Representatives on the Council of the Society.—Dr. W. H. Bradley, Dr. F. M. Day and Dr. F. R. Waldron.

M.O.H. Members of the Branch Council.—Dr. V. Freeman, Dr. A. B. Stewart, Dr. W. Stott and Dr. C. F. White, O.B.E.

Non-M.O.H. Members of the Branch Council.—Col. A. E. Campbell, Dr. G. D. Pirrie, Dr. L. Oldershaw and Dr. A. Mower White.

Representative of the County M.O.H.—Dr. Murdoch Macgregor.

Auditors.—Dr. H. A. Bulmaud and Dr. A. G. G. Thompson.

Consideration was given to a letter from the Executive Secretary asking for the comments of the Branch on a suggested statement to be issued by the Society on Smallpox Vaccination. After discussion it was agreed to suggest certain amendments to the proposed statement.

A letter from the Executive Secretary dealing with the Public Health Service Defence Trust was submitted to the meeting and an appeal made to members to support the Trust.

A letter from the Hon. Secretary of the Dental Officers' Group regarding a representation on the Branch Council was referred to the Council for consideration and report.

SCOTTISH BRANCH

President: Dr. E. Neil Reid (C.M.O.H., Stirlingshire).

Hon. Secretary: Dr. J. Riddell (C.M.O.H., Midlothian and Peebles).

The Annual General Meeting of the Branch was held in the Council Chamber, Town House, Union Street, Aberdeen, on Saturday, June 9th, 1951, at 12.15 p.m. The President was in the chair and 20 members attended.

The Secretary's Report, which had been circulated to the members, was approved. It was agreed to record the warm appreciation of the Branch for the work of the Honorary Secretary during the year. In replying, the Secretary expressed his thanks to the Council generally, and the Assistant Secretary, Dr. Nisbet, in particular.

Treasurer's Report

The Treasurer's Report, which was circulated at the meeting, was also approved. It was noted that it had been necessary to borrow £5 and the Treasurer was instructed to request reimbursement of this from the parent body. The representatives on the Council were also asked to make use of any opportunity which might arise to stress the need for an increase in the annual capita-tion grant.

Appointment of Office Bearers, 1951-52.—Amid considerable acclamation, on the proposal of Dr. W. G. Clark, seconded by Dr. McMichael, Dr. Nora Wattie was appointed as President, and Dr. Wattie having suitably replied, then took over the chair from Dr. Reid. The other office bearers and members of Council appointed were as follows:—

Vice-Presidents.—Dr. E. Neil Reid and Dr. J. R. Adam.

Honorary Secretary and Treasurer.—Dr. J. Riddell.

Hon. Assistant Secretary and Treasurer.—Dr. B. R. Nisbet.

Members of Council

Regional.—Drs. J. Kelman, A. G. Reekie, I. C. Monro, W. G. Clark, A. Allan and R. L. Leask.

Teaching.—Dr. W. A. Horne.

Members not Medical Officers of Health.—Drs. H. A. Raeburn, M. Esslemont and S. Thomson.

Others.—Drs. J. A. C. Guy, J. A. Routhead, S. I. Laidlaw, J. A. Cuthbert, A. Fulton and G. V. T. McMichael.

Representation on Central Council.—The Secretary was instructed to enquire whether Dr. Clark, in view of his appointment as President of the Society, would still act as a Scottish Representative or whether another representative should be appointed additionally in his place. The appointment of representatives was continued until this had been ascertained.

The meeting terminated at 1 p.m.

WELSH BRANCH

President: Dr. D. E. Parry-Pritchard (C.M.O.H., Caernarvon-shire).

Hon. Secretary: Dr. Mary Lennox (M.O.H., Barry M.B.).

A most interesting and enjoyable week-end meeting of the Welsh Branch was held on May 19th and 20th, 1951, at Llandrindod Wells. Nineteen members, their wives and guests, comprising a party of 33, met at the Llandrindod Wells Residential School for the Deaf (Welsh Joint Education Committee) and spent Saturday afternoon on a comprehensive tour of the school under the guidance of Mr. and Mrs. Louis Bayliss (Principal and Matron). The party then adjourned to the new M. & C.W. Clinic, Llandrindod Wells, where tea was taken by kind invitation of Dr. and Mrs. F. J. H. Crawford (County Medical Officer, Radnorshire). After tea the company enjoyed two excellent films—"Triumph over Deafness" and "The Centre," the latter depicting the no-longer existing Peckham Health Centre. In the evening an informal dinner was held and on Sunday morning the whole party visited the new Cluerwen Dam (City of Birmingham Water Department).

WEST OF ENGLAND BRANCH

President: Dr. J. M. Cormack (M.O.H., S. Gloucestershire C.S.D.).

Hon. Secretary: Dr. R. H. G. H. Denham (M.O.H. Bathavon, Frome, etc., A.C.M.O., Gloucestershire).

A meeting of the Branch was held at Bristol University on Saturday, April 7th, 1951, and was attended by the President and 15 members.

Detailed consideration was given to the document on Vaccination Policy proposed by a special committee of the Council. As a result of this it was decided to submit a request to the Council that a national scheme of propaganda and stimulation for primary vaccination against smallpox in infancy should be inaugurated.

Mr. R. T. Inder, L.D.S., Dental Surgeon, Devon County Council, who is due to retire this year after 30 years' membership, was nominated by the Branch for life membership of the Society.

Dr. James Macrae, Resident Physician, Ham Green Hospital, Bristol, gave a most entertaining and informative paper entitled, "Human Infectious Diseases Associated with Animals" (published in our last issue). Considerable discussion followed and the speaker was thanked by Dr. Doyle for his very able contribution to a most important subject.

COUNTY DISTRICT GROUP

President: Dr. E. J. Gordon Wallace (M.O.H., Weymouth M.B., Div. M.O., Dorset).

Hon. Secretary: Dr. R. C. M. Pearson (M.O.H., Watford M.B., Div. M.O., Herts).

Annual Meeting, 1951

The Annual Meeting of the Group was held in the Victoria Hall of the Municipal Buildings, Southport, on Wednesday, April 25th, 1951, at 8 p.m. The President took the chair and was supported by approximately 110 members.

The President gave a summary of the negotiations which the Standing Joint Committee had carried out with the County Medical Officers' Group on "Decentralised Administration" and gave the assurance that after a draft memorandum had been agreed upon it would be circulated to members of the Group. Dr. Wallace also mentioned the successful Refresher Course held in London in November, 1950, and asked the meeting whether support would be forthcoming for another this year. Finally, the members were urged to subscribe regularly to the Public Health Service Defence Trust.

After some discussion it was decided not to hold a Refresher Course in 1951.

The Honorary Treasurer's Balance Sheet was submitted and approved.

The following officers were elected for the year 1951-52:—

President.—Dr. C. L. Williams (M.O.H., Barking M.B.).

Vice-President.—Dr. J. D. Kershaw (M.O.H., Colchester M.B.).

Hon. Secretary and Treasurer.—Dr. R. C. M. Pearson (M.O.H., Watford M.B.).

Hon. Assistant Secretary.—Dr. G. H. Pringle (M.O.H., Worthing M.B.).

Representatives on the Council.—Drs. C. L. Williams, R. C. M. Pearson and G. H. Pringle.

The Executive Committee was elected as follows: Drs. A. F. Adamson, F. Appleton, H. L. Barker, F. G. Brown, F. W. Campbell Brown, J. M. Cormack, G. Chesney, J. Alun Evans, C. E. E. Herington, J. C. Johnston, J. D. Kershaw, F. T. Madge, B. F. McKeown, G. L. Brocklehurst, G. H. Pringle, R. E. Robinson, R. G. Smithson, J. A. Stirling, Caryl Thomas, E. J. Gordon Wallace.

The suggestion was put forward that the constitution of the Executive Committee should be worked out for the next Annual Meeting on the basis of Sub-Groups of the County District Group so that more close contact could be maintained between the Executive Committee and the members living some distance from London. The Honorary Secretary undertook to write to the Honorary Secretaries of the Branches of the Society urging that Honorary Secretaries of Sub-Groups should be appointed.

Epidemiological Investigation and Research

The President then introduced Prof. G. S. Wilson, Director of the Public Health Laboratory Service, who gave his address with the above title. It was emphasised that team work is of vital importance in the investigation of all infectious diseases so that the Medical Officer of Health and the Laboratory are brought into very close touch with each other, recognising that neither can hope to succeed without the help of the other. On occasions the bacteriologist may wish to initiate research, but he would naturally consult with his District Medical Officer of Health to see that the subject could be attacked from all angles. Furthermore, it is very often found that the area surrounding the Laboratory is rather too small and in such cases either a group of laboratories covering several local authority areas has to combine. Prof. Wilson made several suggestions to a very interested audience on the lines of thought which might usefully be considered and about which very little is known, such matters as the sex ratio in late pulmonary tuberculosis, the causation of dental caries, etc. Finally, the usefulness of the epidemiological team bringing together the Medical Officer of Health, General Practitioner and the Bacteriologist and the Statistician was stressed, making it clear that a small team is often more effective in research work than a number of investigations by a questionnaire. Drs. Parfitt, Payne and Sleight took part in the discussion which followed. Dr. Williams proposed a vote of thanks to Prof. Wilson for a most interesting talk.

Dr. Stirling then answered a number of questions on the salaries of Medical Officers of Health but could give no indication on the award for Divisional Medical Officers, which had not then been published.

DENTAL OFFICERS' GROUP

President (1950-51): P. G. Oliver, L.D.S. (Chief D.O., Croydon, C.B.); (1951-52) J. V. Binyay, M.B.E., L.D.S. (Chief D.O., Middlesex C.C.).

Hon. Secretary: J. F. A. Smyth, L.D.S. (Chief D.O., Gloucestershire).

Group Council Meeting

A meeting of the Group Council was held at Tavistock House on Saturday, July 21st, 1951, at 9.45 a.m. The Chairman of the Council, Mr. K. C. B. Webster, Cohen, and also present were Messrs. K. Batten, J. V. Binyay, Pohn, R. B. Dinsdale, H. B. Fleming, J. Fletcher, E. Kew, P. G. Oliver, J. F. A. Smyth, Miss A. M. Stewart, Messrs. A. G. Taylor and J. Young. The Minutes of the previous Group Council Meeting were confirmed and signed.

Correspondence

(a) *Proposed New Dental Bill.*—The Hon. Secretary had sent a letter to the Executive Secretary of the Society embodying the Group Council's views on the proposed legislation. These had been accepted, with the exception of those relating to Dental Auxiliaries, which had been referred back for reconsideration by the Group Council. The Group Council, after careful consideration, reaffirmed their previous recommendations, but added the proviso that if it were insisted upon by higher authority that Dental Auxiliaries of the New Zealand type should be introduced in this country, then there were certain safeguards which the Group Council would consider essential.

(b) *General Dental Services Committee.*—A letter had been sent to the British Dental Association asking that as an interested party the Group should have representation at the Conference which was to be called to consider the setting up of this body. A reply

had been received from the Association suggesting that in their view such representation would be inappropriate.

(c) *Duties of the Medical Officer of Health and His Department.*—The Group had sent a letter to the Executive Secretary expressing their disappointment at not having representation on this Committee. It was pointed out that under the present set-up the Dental Officer was almost alone in his inability ever to proceed to the status of head of a department in the Local Government Service. His position compared unfavourably with the autonomy the profession had achieved in the Hospital and General Dental Services.

Reports of Officers

Hon. Treasurer.—In presenting the financial statement Mr. Batten made it clear that the Group's financial reserves had still further diminished during the past session, and now stood at a dangerously low level. As the position had deteriorated somewhat more rapidly than had been expected, the Economy Committee were asked to prepare a further report for submission to the next meeting of the Group Council.

Hon. Editor of Transactions.—Mr. Fletcher stated that during the earlier part of the session the aftermath of the printers' dispute was still being felt. Nevertheless, everything that had been submitted had been accepted for publication. He called attention to the fact that quite frequently matters of dental interest now appeared in the Editorial Columns.

Hon. Membership Secretary.—Mr. M. Cohn stated that there were now 137 members of the Group, of whom 20 were fellows of the Society.

Hon. Secretary.—Mr. J. V. Bingay thought that, in view of his "impending translation to a higher sphere," perhaps the Group Council would not consider it inappropriate if he were to reserve his remarks until later in the afternoon.

Report of London and Home Counties Sub-Group.—Mr. H. B. Fleming reported that a meeting had been held on June 9th at which Mr. G. J. Parfitt, Head of the Department of Preventive Dentistry at the Eastman Dental Hospital, had given an address. Mr. Parfitt's address had been one of very great interest and he regretted the poor attendance at the meeting.

Report of Representatives on Council of the Society.—Mr. Taylor reported that the B.M.A. would impose a ban on advertisements from local authorities not implementing the whole of the Medical Whitley Council's Committee "C" Salary Agreements. The Durham County Council, he also said, was now the subject of an "important notice."

Report of Observer on P.D.O. Group Committee of British Dental Association.—Mr. Bingay reported on the Meeting of Group Committee held on July 2nd in London. Mr. Fletcher had protested that confidential matter which he had quite properly reported to the Group Committee as a member of the Representative Board had been given wider publicity in a broadsheet issued to many members of the P.D.O.G. and also to Officers of the Ministries of Education and Health. It was promised that care would be taken to prevent such an occurrence in the future. The question of the provision of a car as a condition of appointment in the Local Authority Dental Service had been considered.

Committee Controlling the Experiment in the Use of Dental Hygienists.—On the motion of Mr. Webster it was resolved that the Executive Secretary be asked to seek representation for the Group on this Committee.

Election of Chairman of Group Council.—Mr. K. C. B. Webster said that before vacating the office of Chairman of the Group Council he felt that it would not be unifying for him to say a few words. He thought that compulsory retirement after a period of three years was a most sensible arrangement and in everyone's interest, including his own. The Group had always been well served by its officers and the main credit for any progress that had been made must go to Messrs. Bingay, Batten, Fletcher, Taylor, Davie and Smyth. Early in his term of office the Joint Committee, comprised largely of the Executives of the two Groups, had been formed and a joint policy had been planned. The Joint Committee had been largely responsible for the Whitley agreements. He did not think that either side of the Whitley Council was really satisfied with the agreement, but it was the best they could get at the time. The question of the salaries of part-time officers was now under consideration. School dentistry had been first started by part-timers and their services were still necessary. He further expressed his concern at the progressive parcelling of the three dental services into watertight compartments. He had been disturbed recently to hear from an authoritative source that it was administratively impossible for a dental hygienist to be shared between the Local Authority Dental Service and a local hospital. Within the Society the Group enjoyed a high reputation, thanks very largely to Messrs. A. G. Taylor and J. V. Bingay, the Group's Representatives on the Council of the

Society, and their predecessors in that office. During his period of office he had enjoyed the personal friendship of Mr. Elliston, the Executive Secretary. Mr. Elliston had always been a good friend of the Group. Nothing had been too much trouble for him and his experience and charm had been remarkable. Dr. George Buchan had helped greatly in the earlier stages of the conferences which had led up to the foundation of the Whitley Council and his remarks, which had been very much to the point, at meetings of the B.D.A. Remuneration Committee, which Society Representatives had attended by the courteous invitation of Mr. Duckworth and later of Mr. Gillard Bishop, had been a delight. He thanked all those stalwarts who had come many miles to attend Group meetings. In conclusion, he wished to say that though it was perhaps invidious to select any one for particular mention, there were two members of the Group, Mr. Fletcher and Mr. Bingay, whose work had been outstanding. Speaking of the former, his knowledge of local government work and his experience had been a source of strength to the Executive and in wider spheres. Mr. Bingay had taken office as Secretary when he himself had become Chairman. They had been together through many vicissitudes. The best tribute he could pay was to say that, in his belief, Mr. Bingay was the best Secretary the Group had ever had, and in saying this he was not unmindful of the giants of the past who had served the Group in the early days of its existence. A very hearty vote of thanks to Mr. Webster for his services as Chairman of the Group Council was carried by acclamation.

Mr. J. V. Bingay was elected Chairman of the Group Council for the ensuing year.

Election of Group Representatives on the Council of the Society.—Mr. A. G. Taylor and Mr. J. F. A. Smyth were elected Group Representatives on the Council of the Society.

Any Other Business.—In order to facilitate the preparation of the annual financial statement it was agreed that in future the Group's financial year should be from July 1st until the following June 30th.

Annual General Meeting

The Annual General Meeting of the Group was held in the Old Library, B.M.A. House, Tavistock Square, London, on Saturday afternoon, July 21st, 1951. The retiring President, Mr. P. G. Oliver, was in the chair and 17 other members of the Group were present. At the opening of the meeting Mr. Oliver paid a tribute to Dr. J. Sim Wallace, whose death at the age of 82 had taken place during the previous week. Dr. Sim Wallace's name was known the world over for his great work in connection with the prevention of dental caries. He had twice been President of the Group and was an Honorary Fellow of the Society. For his Presidential address to the Group in 1928 he had been awarded the Society's Neech Prize. The meeting stood in silence for one minute as a token of respect for his memory.

Report of Hon. Treasurer.—Mr. K. Batten, in presenting his Balance Sheet, said that although expenditure had again exceeded income it was at least satisfactory to know that the Group was still solvent.

Report of Hon. Editor of Transactions.—Mr. Fletcher stated that there had perhaps been less appearing in PUBLIC HEALTH under Branch and Group Reports, but it must be remembered that during the earlier part of the year they had still been suffering from the aftermath of the printers' dispute. He hoped that members had noted that there had of late quite frequently been matter of dental interest appearing in the editorial columns of the Society's journal.

Report of Hon. Secretary.—Mr. Bingay said that at the end of his fifth year as their Secretary he would be presenting the last of his reports. Meetings during the session just past had been badly attended, except for a joint meeting with the P.D.O. Group of the B.D.A. on the subject of salaries, which had been called when it had appeared possible that the negotiations for the setting up of the Dental Whitley Council might break down. During his term of office they had had some wonderful battles which had kept them well on their toes. They had seen the Group come to a peak of its influence, from which perhaps it had again receded slightly. He would take with him memories of some wonderful Group Dinners, especially the one at Claridge's in celebration of the Golden Jubilee of the formation of the School Dentists' Society. He thanked the other officers of the Group who had worked so well together as a team and given him such wonderful support.

Mr. K. C. Webster, in proposing an expression of thanks to Mr. Bingay for his work as Hon. Secretary during the past five years, said it was only fitting that now, when he would be assuming the highest office in the Group, they should record their appreciation of his very able conduct of the Group's affairs. In his opinion Mr. Bingay was the best Secretary the Group had ever had and this was fortunate as the times had not been easy

ones. They had had some very able Secretaries in the past, and he mentioned particularly Fisk, Grantley Smith, Pilbeam and Taylor. Mr. Bingham suitably replied.

Election of Officers

The following were elected:—

President-elect.—Kevern Batten.

Vice-Presidents.—K. C. B. Webster, John Young, S. K. Donaldson.

Hon. Treasurer.—A. G. Taylor.

Hon. Auditors.—Miss W. M. Hunt, W. L. Cooper Jones.

Hon. Secretary.—J. F. A. Smyth.

Hon. Editor of Transactions.—J. Fletcher.

Hon. Assistant Secretary.—Miss A. M. Stewart.

Hon. Membership Secretary.—M. Cohn.

Members of the Group Council.—R. B. Dinsdale, Miss W. M. Hunt, E. Kew, J. C. Robertson.

Valedictory Address

The retiring President, Mr. P. G. Oliver, said that throughout the year, in spite of reduced membership, much had been achieved. Though there had been casualties among the Sub-Groups, the heart of the Group itself continued to beat strongly, and through its liaison with the parent Society and the British Dental Association to make its influence felt at the highest level. Social and professional activities had in no way been curtailed, discussions at meetings had as usual been both helpful and informative. The high light of the year had undoubtedly been the successful conclusion of the first negotiated salary scales by the Dental Whitley Council. The results had perhaps not come up to the expectations of some members, but they could again be reviewed when circumstances appeared favourable. On the political horizon the proposed new Dental Act loomed before them with all its implications in regard to Dental Auxiliaries. Though *bona fide* Auxiliaries could no doubt play an appropriate part in a fully staffed scheme of children's dentistry, they should, he felt, be very much on their guard against any set-up whereby major decisions regarding diagnosis and treatment were delegated to Auxiliaries as in the New Zealand scheme, where Dental Officers were relegated to quasi-administrative positions. As the meeting was to discuss this subject later in the afternoon he did not wish at that stage to appear to pre-judge the issue, he felt, however, that the time had come to weigh the issues carefully and to arrive at a common policy for the future. He then placed the badge of office on Mr. Bingham's shoulders, wished him a happy and successful year of office, and led him into the Presidential chair.

Presidential Address

The new President, Mr. Bingham, said that, as they would be discussing Dental Auxiliaries later, he proposed for his address to depart a little from the usual pattern and to tell them of the adventures of a Mobile Dental Unit which he had had the honour to command during the invasion of Europe by the liberating armies of the Allies. For those who had not seen a Mobile Dental Unit or who might confuse it with those ornate caravans seen in use in this country, it consisted of an ordinary 3-ton Bedford lorry with two pent houses attached, one for use as a surgery, the other for sleeping quarters of the other ranks. The Officer in Command slept "in lonely state in a 160-pounder tent." The canvas-covered body of the lorry was used as a laboratory for the technician. During the winter of 1944 and early spring of 1945 they had been inundated with cases of acute ulcerative gingivitis, and he had treated as many as 85 cases in a day. It was not unusual for them to commence duty at 8 a.m. and to work until 11 p.m., and on at least two occasions they had worked through 48 hours at a stretch in order to complete the work for a Unit which was bound for a period of front-line duty. It had been a matter of pride to him that both his Corporal Clerk Orderly and Corporal Mechanic had been awarded the Commander in Chief's certificate of efficiency, which they had richly deserved. He would like to pay tribute to those officers of the Royal Army Dental Corps who had worked so hard from the outbreak of war to render the armies dentally fit and it was his experience overseas that the vast majority of the men were in superb dental condition. He thanked the meeting for the honour they had conferred on him in electing him to the Presidency.

Dental Auxiliaries

There followed a discussion as to Group policy on the use of Auxiliaries. Mr. Webster, who opened the discussion, said the Group Council did not like the New Zealand scheme for this country, but the Government might introduce legislation and bring in the New Zealand type of dental auxiliary, regardless of the views of the profession, in which case they would have to consider what safeguards were necessary. He did not like the

method of legislation by regulation which apparently the Government were proposing to use in regard to the types of auxiliary worker whose position they were proposing to regularise.

Mr. Fletcher, who followed, thought it all hung on the question: Would they ever be able to give a service of full conservative treatment for the temporary dentition without the aid of auxiliaries. He did not think there was any country in the world, apart from New Zealand, where they could hope to do this. He nevertheless was quite certain that diagnosis and prescription of treatment must be carried out by experienced dental practitioners.

Mr. S. B. Newton said that his ideas regarding auxiliaries had switched round. He had once been opposed to them. The problem was to get people to enter the profession. It was not a popular profession. Even dentists did not always put their sons into dentistry. He did not think the work could be done adequately with present dental manpower. The profession should sink their prejudices and think what was best for the public. Children should not suffer in order that the profession could stick to the old prejudices. He thought something had to be done to get adequate dental attention for the people.

Mr. J. Rhys Herbert said the problem needed much careful thought. Col. Saunders had given an excellent picture of what was being done in New Zealand, economically it would cost much more and might be an inferior service if such a scheme were introduced into this country.

Mr. G. F. Unwin thought it was very much a question of recruitment. If the service were able to expand then there would be little to fear. If not, then Auxiliaries would be forced upon them. As regards Dental Hygienists, one had been allotted to him, and he was surprised at the help she had given him. He had been saved many hours of work.

Mr. R. B. Dinsdale asked why in such matters as this must the Public Dental Officer be always the "muggins." The so-called "priority classes" were said to be the most important from the dental standpoint. The young child should have expert attention. If dilution there must be there were other ways in which it could be effected.

Mr. J. F. A. Smyth said that in his view Mr. Fletcher had put his thumb on the spot when he stressed the question: Are we able to conserve the temporary dentition without the aid of ancillaries? Even if there were 2,000 dentists in the service, with the raising of the school-leaving age, the increased birth-rate and more children at grammar and technical schools, this would only bring them back to the level of the best of the older schemes, and even those were unable to give a full conservative service for the temporary as well as the permanent dentitions. The New Zealand Dental Service did conserve the deciduous teeth on a scale never achieved in this country, and perhaps with more success than Dental Officers as a whole attained. This, he thought, was perhaps because they were specially trained for that one task. Dental Officers should consider very carefully whether it was in their own interest to oppose entirely the whole question of auxiliary work.

Mr. K. Batten said it would, in his opinion, be very unwise to turn the thing down out of hand. At the present time dentistry was having a very bad press. If dental ancillaries were to come it should be on the understanding that Dental Officers were in charge of the dental nurses and they should do what the Dental Officer considered right.

In proposing a vote of thanks for his address, Mr. A. G. Taylor said Mr. Bingham had given them what was in the nature of a cocktail admirably brief, and at the same time stimulating. His address had given them just the right impetus for the discussion which was to follow. In seconding the motion, Mr. Fletcher said he would like at the same time to pay tribute to Mr. Webster for his work as Chairman of the Group Council, which office he was relinquishing after a three-year period. Mr. Oliver also supported the motion, which was carried with enthusiasm.

DENTAL OFFICERS' METROPOLITAN AND HOME COUNTIES' SUB-GROUP

Chairman: J. V. Bingham, L.D.S., M.S.E. (Chief D.O., Middlesex).

Hon. Secretary: H. B. Fleming, L.D.S. (Eastman Dental Hospital).

A meeting of the Sub-Group was held in the Hastings Hall, Tavistock House, on Friday, February 9th, 1951, at 7.30 p.m. In the absence of Mr. J. V. Bingham, the Chairman, who was prevented from attending owing to illness, Mr. J. C. Robertson, the Vice-Chairman, presided. He was supported by 14 members and visitors. Mr. Robertson welcomed Mr. George Cross and invited him to read his paper entitled "Periodontal Disease in the Expectant Mother." His investigations showed that 53% of expectant mothers showed some evidence of gingivitis; 65% of the cases were found during the third and fourth months. Pregnancy gum tumours were not so common. Histologically

the epidermis showed loss of surface keratin, elongation of the epithelium and a heavy infiltration of leucocytes. A high percentage of the cases cleared up following parturition. Treatment consisted in thorough scaling to ensure the complete removal of all calculus—several visits were often necessary to accomplish this—and the thorough instruction of the patient in oral hygiene. Gingivectomies during pregnancy were not satisfactory except in the case of gum tumours if these were interfering with the patient's comfort. Mr. Cross's paper was brilliantly illustrated with coloured lantern slides. A stimulating discussion ensued in which the following took part: Mrs. Clausen, Miss Knowles, Mr. P. G. Oliver, Mr. O'Regan, Miss Stewart, Mr. Gordon Taylor and Dr. A. T. Wynne.

A vote of thanks to Mr. Cross for his paper was proposed to Mr. Adorian, seconded by Mr. Dinsdale, and carried by acclamation.

MATERNITY AND CHILD WELFARE GROUP

President (1950-51): Dr. Miriam Florentin (Sen.M.O., M.C.W., West Ham C.B.).

Hon. Secretary: Dr. Kathleen Hart (A.D.M.O., Middlessex).

Hon. Asst. Secretary: Dr. Doris Craigmile (A.D.M.O., Middlessex).

A general meeting of the M. & C.W. Group was held in the Old Library, B.M.A. House, on Saturday, April 7th, 1951. The President was in the chair.

Relations of Municipal and Other Maternity Services

The main item on the agenda was a discussion on "The Relationship between Municipal Ante-Natal and Post-Natal Clinics, and other Branches of the Maternity Service." The principal speakers were Dr. Jean Mackintosh, Senior M.O. (M. & C.W.), Birmingham, and Dr. Jean Hallum, Birmingham R.H.B.

In opening the discussion Dr. Mackintosh compared the standard of ante-natal care before and after the N.H.S. Act. Before the appointed day nearly all women had adequate ante-natal care. In Birmingham about 85% of all expectant mothers attended clinics where, in addition to medical care, they received mothercraft teaching. The relationship then existing between G.P. and midwife was fairly good, although many clinic M.O.s had a feeling of frustration in that they were not able to see a case through to the end.

The new N.H.S. Act was supposed to provide continuity of care but this had not been achieved. The Act required the G.P. to make a minimum of two ante-natal examinations, and the clinics were to come into the picture in some indefinite way. The very unsatisfactory circular from the C.H.S.C. had not helped to clarify the position. Dr. Mackintosh considered the ante-natal care provided by G.P.s in Birmingham to be pretty good. 75% of women had a minimum of four examinations, but it was difficult to see how they could maintain a reasonable standard of efficiency when most G.P.s had not more than ten medical aid calls a year and many of these were for a ruptured perineum.

In 1950 the stillbirth and neo-natal death-rates were slightly up, although the total infant death-rate was down to a new low record. The stillbirth rate in nursing homes had increased eight times. The increase in the neo-natal death-rate was associated with breech presentation and that in the stillbirth rate with toxæmia, although the incidence of both these conditions was no higher in 1950 than in 1949.

Were the mothers getting as good care now as before? Dr. Mackintosh thought in some cases "yes," in some cases "no."

Who should do the Ante-natal Clinic—the L.A. medical officer, the G.P. or the consultant? She suggested that L.A. medical officers should have access to the delivery of cases or at any rate to ward rounds. If the G.P. would come to look on the clinic as a place to go to for help we would then get the beginnings of group practice, and was there any reason why the L.A. medical officer should not work in such a group and perhaps undertake obstetrics in the district?

Dr. Hallum felt a woman should, and usually did, consult her G.P. first. The division into G.P.O.s and others had led to great dissatisfaction, but it was essential that doctors undertaking obstetrics should have had some post-graduate experience and possibly also a certificate such as the D.Obst.R.C.O.G.

The G.P. had difficulty to find time to give adequate obstetric care and this was the crux of the difficulties. There should always be separate times set aside for ante-natal examination, and the midwife and possibly the H.V. should attend the doctor's surgery.

There were real risks attached to home delivery. Dr. Hallum felt strongly that in time all deliveries should be carried out in a well-equipped maternity unit for the following reasons:

Emergencies were unpredictable and urgent, particularly prolapsed cord and P.P.H. Midwives could not deal with P.P.H. and permanent damages to adrenal and pituitary might be caused by haemorrhage. The services of an anaesthetist were usually necessary and the anaesthetic risk was increased in pregnancy. It was hard enough to get one, let alone two, doctors in an emergency.

Modern methods of resuscitation of the infant required a hospital and there was a place for the paediatrician in the team. Patients on the whole desired the actual delivery to be in hospital but after about four days normal mothers could be nursed at home.

Dr. Hallum thought many clinics very good. They were usually easily accessible and a place where the mother could take her toddlers with her. The H.V. had an important part to play. She was trained to impart knowledge to other women and could advise on diet, clothing, etc. The mother should know the H.V. before delivery. It was well known that the danger period as regards breast-feeding came when the mother switched from midwife to H.V. The clinic staff were able to chase up defaulters which the G.P. was rarely able to do. There were many other advantages in the clinic. There were facilities for blood tests, including haemoglobin estimations (a low haemoglobin was a cause of prematurity), facilities for full investigation of the urine, routine chest X-rays, special investigation of vaginal discharge. There are classes for ante-natal exercises and relaxation, dental care, distribution of vitamins, etc. Dr. Hallum did not think it important that the clinic M.O. had not seen a baby born for ten to 12 years but they should attend ward rounds and discussions.

Maternity hospitals were ideal places, provided they were properly staffed and equipped, and they should have an adequate number of ante-natal beds. There should be full exchange of information between G.P., hospital and clinic.

Should G.P.s have maternity beds? Yes, provided they were limited in number and under the control of a consultant. If G.P.s had time and were willing there was no reason why they should not be attached to a maternity unit.

In obstetrics the mortality was not the whole picture. There was much morbidity following confinement, as example cervical erosion, and we must give more thought to this.

The N.H.S.A. had opened up great opportunities for co-operation.

A lively discussion followed, particularly on the controversial question as to whether the proper place for a normal confinement was at home or in hospital.

A vote of thanks to the two speakers was proposed by Dr. Doris Craigmile.

NORTH-WESTERN M. & C. W. and S.H.S. SUB-GROUPS

President 1950-51: Dr. Winifrid Kane (Sen. M.O., M.C.W. Manchester C.B.).

Hon. Secretary: Dr. E. M. Jenkins (Sen. M.O., S.H.S. Manchester C.B.).

The annual general meeting of the sub-groups was held on Saturday, June 23rd, 1951, at the Sunshine Home for Blind Babies at Kingswinford, Staffordshire. The President and six members attended.

The election of officers for the ensuing session 1951-52 then took place. In the absence of Dr. Bennett, the Secretary on her behalf proposed Dr. Wilkinson as President for the coming session. This nomination was seconded by Dr. Cliff and carried unanimously. She then accepted the post and with due modesty expressed her intention to do her best to ensure that the ensuing session was a successful one.

Dr. Jenkins was re-elected Honorary Secretary.

The election of members of the Committee was then considered. Dr. Cliff's resignation was accepted with much regret, and a vote of thanks was passed in token of her active support in the past, particularly during the time when she was Honorary Secretary of the sub-groups.

The Committee of the sub-groups for the ensuing session will thus consist of the following members:—Drs. Bennett, Butters, Crewe, Keddie, Knight, Sproul, Walker and Kane.

Drs. Knight and Sproul were re-elected as representatives on the Council of the Maternity and Child Welfare Groups, and Drs. Wilkinson and Jenkins to that of the School Group.

Miss Dewis then conducted the members round the Home showing them three beautiful dormitories each with charming little beds and lockers for every child. Everywhere was spotlessly clean and beautifully decorated. The same thing also applied to the various classrooms and playrooms and it seemed a pity the children were not able to see the beauty around them. Since it was Saturday, most of the children were out playing under the supervision of young nursing assistants, and the general atmosphere of joy and happiness was very noticeable.



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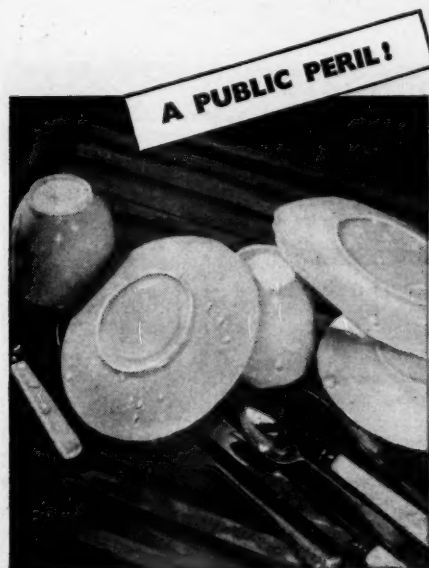
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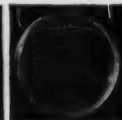
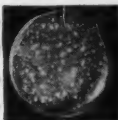
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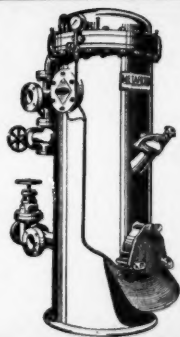
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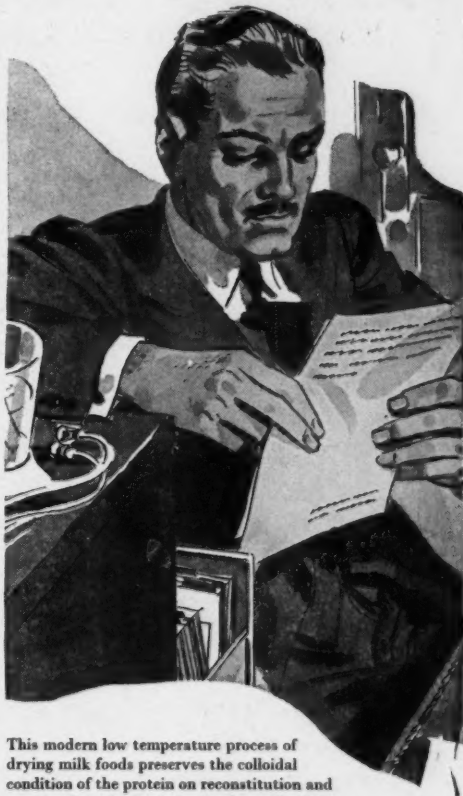
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